

# *Wallenpaupack Area School District*

**COURSE:** Advanced Placement Biology

**GRADE LEVEL:** 11 and 12

**LENGTH OF COURSE:** 135 classes/school year

**TEXT:** Biology, 6<sup>th</sup> Edition

**PUBLISHER:** Benjamin Cummings

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**COURSE DESCRIPTION:**

This A.P. Biology course is designed to be the equivalent of a two-semester college biology course usually taken by biology majors during their first year. The course of study mirrors the course description published by The College Board. This course will place emphasis on molecules and cells, heredity and evolution, and organism and populations. A.P. Biology is taught at the college level and is designed for the highly motivated student. The student who enrolls is expected to prepare seriously to take an Advanced Placement Examination in Biology.

**CURRICULUM WRITING TEAM:**

Gene Shultz

**DATE OF REVISION:**

August 2004

# Wallenpaupack Area School District

**Course:** Advanced Placement Biology

**Grade Level:** Grade 11 - 12

**Unit:** Molecules and Cells

**PA Standards:** 3.1.12.A  
 3.1.12.B  
 3.1.12.C  
 3.1.12.D  
 3.1.12.E  
 3.2.12.A  
 3.2.12.B  
 3.2.12.C  
 3.2.12.D  
 3.3.12.A  
 3.3.12.B  
 3.3.12.D  
 3.7.12.A  
 3.7.12.B  
 3.7.12.C  
 3.7.12.D  
 3.7.12.E  
 3.8.12.A  
 3.8.12.B  
 3.8.12.C

<b>Topics:</b>	<b>Skills:</b>
Chemistry of Life Cells Cellular Energetic	Understand biological concepts as they pertain to the topics and related them to the various levels of organization of biological systems Organize biological concepts into a framework by applying the concepts to the following themes: <ul style="list-style-type: none"> <li>• Science as a process</li> <li>• Evolution</li> <li>• Energy transfer</li> <li>• Continuity and change</li> <li>• Relationship of structure to function</li> <li>• Regulation</li> <li>• Interdependence in nature</li> <li>• Science, technology, and society</li> </ul> Demonstrate proficient laboratory techniques
<b>Activities:</b>	<b>Performance Assessments:</b>
Textbook reading Teacher lecture Student media online Study guide activities Free response question practice writing Thinking critically activities	Teacher designed tests and quizzes Graded free response essays Laboratory reports Thinking critically activities Practice A.P. examinations

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<b>Activities: (continued)</b>	
Extension/application activities Current events in biology Laboratories – organic molecule modeling, enzyme catalysis, microscope use review, diffusion and osmosis, cell respiration, plant pigments and photosynthesis, mitosis and meiosis	

# Wallenpaupack Area School District

**Course:** Advanced Placement Biology

**Grade Level:** 11-12

**Unit:** Heredity and Evolution

- PA Standards:**
- 3.1.12.A
  - 3.1.12.B
  - 3.1.12.C
  - 3.1.12.D
  - 3.1.12.E
  - 3.2.12.A
  - 3.2.12.B
  - 3.2.12.C
  - 3.2.12.D
  - 3.3.12.A
  - 3.3.12.B
  - 3.3.12.C
  - 3.3.12.D
  - 3.6.12.A
  - 3.7.12.A
  - 3.7.12.B
  - 3.7.12.C
  - 3.7.12.D
  - 3.7.12.E
  - 3.8.12.A
  - 3.8.12.B
  - 3.8.12.C

<b>Topics:</b>	<b>Skills:</b>
Heredity Molecular Genetics Evolutionary Biology	Understand biological concepts as they pertain to the topics and relate them to the various levels of organization of biological systems Organize biological concepts into a framework by applying the concepts to the following themes: <ul style="list-style-type: none"> <li>• Science as a process</li> <li>• Evolution</li> <li>• Energy transfer</li> <li>• Continuity and change</li> <li>• Relationship of structure to function</li> <li>• Regulation</li> <li>• Interdependence in nature</li> </ul> Demonstrate proficient laboratory techniques
<b>Activities:</b>	<b>Performance Assessments:</b>
Textbook reading Teacher lecture Student media online Study guide activities Free response question practice writing	Teacher designed tests and quizzes Graded free response essays Laboratory reports Thinking critically activities Practice A.P. examinations

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<b>Activities: (continued)</b>	
Thinking critically activities Extension/application activities Current events in biology Laboratories – mitosis and meiosis, Molecular biology, genetics of organisms, population of genetics and evolution	

# Wallenpaupack Area School District

**Course:** Advanced Placement Biology

**Grade Level:** 11-12

**Unit:** Organisms and Populations

**PA Standards:** 3.1.12.A  
3.1.12.B  
3.1.12.C  
3.1.12.D  
3.1.12.E  
3.2.12.A  
3.2.12.B  
3.2.12.C  
3.2.12.D  
3.3.12.A  
3.3.12.B  
3.3.12.C  
3.3.12.D  
3.7.12.A  
3.7.12.B  
3.7.12.C  
3.7.12.D  
3.7.12.E  
3.8.12.A  
3.8.12.B  
3.8.12.C  
4.6.12.A  
4.6.12.B  
4.6.12.C  
4.7.12.A  
4.7.12.B  
4.7.12.C

<b>Topics:</b>	<b>Skills:</b>
Diversity of organisms Structure and function of plants and animals Ecology	Understand biological concepts as they pertain to the topics and relate them to the various levels of organization of biological systems Organize biological concepts into a framework by applying the concepts to the following themes: <ul style="list-style-type: none"><li>• Science as a process</li><li>• Evolution</li><li>• Energy transfer</li><li>• Continuity and change</li><li>• Relationship of structure to function</li><li>• Regulation</li><li>• Interdependence in nature</li><li>• Science, technology, and society</li></ul> Demonstrate proficient laboratory techniques

## *Wallenpaupack Area School District*

<b>Activities:</b>	<b>Performance Assessments:</b>
Textbook reading Teacher lecture Student media online Study guide activities Free response question practice writing Thinking critically activities Extension/application activities Current events in biology Laboratories – transpiration, plant microanatomy, animal kingdom survey, animal behavior, physiology of the circulatory system dissolved oxygen and aquatic primary productivity	Teacher designed tests and quizzes Graded free response essays Laboratory reports Thinking critically activities Practice A.P. examinations