**COURSE DESCRIPTION**

**Course Title:** Plants and Animals

**Course Number:** 00377

**Course Prerequisites:** Successful completion of Biology

**Course Description:** This one semester course introduces the student to botany, zoology, and classification. Emphasis will be placed on plant and animal classification, structure, and function. This class will be taught with a variety of instructional techniques which may include dissection.

**Suggested Grade Level**: Grades 10-12

**Length of Course:** One Semester

**Units of Credit:** .5

**PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:**

CSPG 32 Biology; CSPG 46 General Science 7-12

To find the CSPG information, go to [CSPG](https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx)

**Certification verified by the WCSD Human Resources Department:** Yes No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

F – Final Average MP – Marking Period EXM – Final Exam

**GPA Type**:  GPAEL-GPA Elementary  GPAML-GPA for Middle Level  NHS-National Honor Society

UGPA-Non-Weighted Grade Point Average  GPA-Weighted Grade Point Average

**State Course Code**: 03099

To find the State Course Code, go to [State Course Code](https://nces.ed.gov/forum/sced.asp), download the Excel file for *SCED*, click on SCED 6.0 tab, and choose the correct code that corresponds with the course.

**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

**Board Approved Textbooks, Software, and Materials:**

**Title:**  Biology

**Publisher:** HMH

**ISBN #:**  978-0-544-81799-9

**Copyright Date:** 2017

**WCSD Board Approval Date:** 5/14/2018

**Supplemental Materials:** Click or tap here to enter text.

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 4/2/2025

**Date Approved:**  5/5/25

**Implementation Year:** 2024-2025

**SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS**

The teacher shall make appropriate modifications to instruction and assessment based on a student’s Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

**SCOPE AND SEQUENCE OF CONTENT AND CONCEPTS**

**Marking Period 1**

* Plant Classification and Diversity
* Plant Structure and Function
* Plant Reproduction
* Plant Regulation

**Marking Period 2**

* Introduction to Animals
* Survey of the Major Groups of Invertebrates
* Survey of the Major Groups of Vertebrates

**Marking Period 3**

* Plant Classification and Diversity
* Plant Structure and Function
* Plant Reproduction
* Plant Regulation

**Marking Period 4**

* Introduction to Animals
* Survey of the Major Groups of Invertebrates
* Survey of the Major Groups of Vertebrates

**Standards/Eligible Content and Skills**

| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Marking Period Taught** |
| --- | --- | --- |
| Explain the characteristics common to all organisms. | SCI.9-12.BIO.A.1.1 | MP1, MP2  MP3, MP4 |
| Describe relationships between structure and function at biological levels of organization. | SCI.9-12.BIO.A.1.2 | MP1, MP2  MP3, MP4 |
| Compare cellular structures and their function in prokaryotic and eukaryotic cells. | SCI.9-12.BIO.A.1.2.1 | MP1, MP3 |
| Describe how the unique properties of water support life on Earth. | SCI.9-12.BIO.A.2.1 | MP1, MP3 |
| Describe and interpret relationships between structure and function at various levels of biological organization (i.e., organelles, cells, tissues, organs, organ systems, and multicellular organisms). | SCI.9-12.BIO.A.1.2.2 | MP1, MP3 |
| Describe the fundamental roles of plastids (e.g., chloroplasts) and mitochondria in energy transformations. | SCI.9-12.BIO.A.3.1.1 | MP1, MP3 |
| Describe the factors that can contribute to the development of new species (e.g., isolating mechanisms, genetic drift, founder effect, migration). | SCI.9-12.BIO.A.3.1.2 | MP2, MP4 |
| Explain how genetic mutation may result in genotypic and phenotypic variations within a population. | SCI.9-12.BIO.A.3.1.3 | MP2, MP4 |
| Identify and describe how organisms obtain and transform energy for their life processes. | SCI.9-12.BIO.A.3.2 | MP1, MP2  MP3, MP4 |
| Compare the basic transformation of energy during photosynthesis and cellular respiration. | SCI.9-12.BIO.A.3.2.1 | MP1, MP3 |
| Identify and describe the cell structures involved in transport of materials into, out of, and throughout a cell. | SCI.9-12.BIO.A.4.1 | MP1, MP3 |
| Describe how the structure of the plasma membrane allows it to function as a regulatory structure and/or protective barrier for a cell. | SCI.9-12.BIO.A.4.1.1 | MP1, MP3 |
| Explain mechanisms that permit organisms to maintain biological balance between their internal and external environments. | SCI.9-12.BIO.4.2 | MP1, MP2  MP3, MP4 |
| Explain how organisms maintain homeostasis (e.g., thermoregulation, water regulation, oxygen regulation). | SCI.9-12.BIO.A.4.2.1 | MP1, MP3 |
| Compare the processes and outcomes of mitotic and meiotic nuclear divisions. | SCI.9-12.BIO.B.1.1.2 | MP1, MP2  MP3, MP4 |
| Explain how genetic information is inherited. | SCI.9-12.BIO.B.1.2 | MP1, MP3 |
| Analyze the sources of evidence for biological evolution. | SCI.9-12.BIO.B.3.2 | MP1, MP2  MP3, MP4 |
| Apply scientific thinking, processes, tools, and technologies in the study of the theory of evolution. | SCI.9-12.BIO.B.3.3 | MP1, MP3 |
| Describe interactions and relationships in an ecosystem. | SCI.9-12.BIO.4.2 | MP1, MP2  MP3, MP4 |
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**ASSESSMENTS**

**PDE Academic Standards, Assessment Anchors, and Eligible Content: The** teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

**Formative Assessments:** The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

**Effective formative assessments for this course include:** Bell ringers, exit tickets, notice and wonderings, progress checks, quizzes, lab assignments, teacher questioning, class discussions, peer assessments, and model trackers

**Summative Assessments: The** teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

**Effective summative assessments for this course include:** CER responses, chapter tests, culminating tasks, and projects