

Brunswick School Department
Science Department
Grades 11-12: Academic Zoology

Adopted : May 2018

Course Overview

This course will take a calculated look at the Animal Kingdom and explore several phylum in depth. A focus will be put on anatomy specific to developed adaptations in the living world and precise environments. This course will be lab-based and each phylum will involve hands on activities including dissections and observations of living materials when applicable. There will also be an emphasis on cellular based mechanisms in each phylum that allow for survival and success. Evolutionary principles including natural selection and speciation will be highlighted as explanations for each phylum's notable adaptations. All assessments will align with BHS graduation standards and NGSS content standards.

Essential Understandings

- Members of the animal kingdom possess specific adaptations for survival in their environment.
- The nine phyla of the animal kingdom are interrelated.

Brunswick High School Priority Standards and Performance Indicators:

P.S. S-4 Understand cause and effect

b Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms

P.S. S-3 Recognize and interpret patterns in the physical and natural world

c Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

P.S. S-5 Demonstrate an understanding of stability and change within a system

a Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

Examples of Formative/Summative Assessments

- Analyze a collection of wild specimens
- Create and use a dichotomous key usage
- Dissect, Starfish
- Participate in the sea urchin fertilization lab
- Observe and record class gastropoda for animal behavior

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- Dissect phylum mollusca
- Dissect phylum annelida dissection and develop a coelom lab
- Participate in the pillbug behavior lab
- Compare and contrast class aves and class reptilian lab

Sample Texts and Materials/Resources

Publications:

- General Zoology – McGraw-Hill – Authors: Storer and Usinger
- Animal Physiology – Freeman Press – Author: Eckert
- Integrated Principles of Zoology – McGraw Hill – Authors: Hickman, Roberts, and Larson

Digital Resources:

- Zoology: NSTA Learning Center
- Tree of Life Web Project
- NatureServe Explorer
- AmphibiaWeb
- EMBL Reptile Database
- PrimateLit
- Fish and Wildlife National Image Library