



Ocean Motion

2017 - Driftwood Education Center



Class Description:

Explore the world of marine vertebrates and invertebrates in our lab. Students will be able to handle such animals as crabs, sea anemones, and mollusks in our touch tank. An in depth study of these animals and their adaptations will be supplemented by a group marine organism dissection.

**Appropriate for all grade levels
Can tailor most classes to High School Students**

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Table of contents and outline:

I. Pre-class set-up

1. Defrost dissection animal
2. Gather dissection materials together
3. Gather activity materials you need for OM room

II. Introduction, overview, and assessment

1. What are our objectives?
2. What is scientific classification?

Concepts 1 to 3 – Outcome 2

III. Main Objectives

1. Dissect and compare
2. Phylum discussion and activity
3. Explore the tank room

Concepts 1 to 3 – Outcome 1 to 3

IV. Conclusions and Wrap-up

1. Review classification and dissection

V. Clean Up

VI. Additional Information and help

1. Dissection anatomy guides

Georgia Performance Standards met:

4th Grade:

S4CS8. Students will understand important features of the process of scientific inquiry.

5th Grade:

S5L1. Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.

6th Grade:

S6CS4. Students will use tools and instruments for observing, measuring, and manipulating equipment and materials in scientific activities.

S6CS9. Students will investigate the features of the process of scientific inquiry.

7th Grade:

S7CS1. Students will explore of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S7L1. Students will investigate the diversity of living organisms and how they can be compared scientifically.

Next Generation Science Standards met:

MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

4-LS1-1 Construct an argument that animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Concepts:

Focal points of this class are:

1. Classification and identification are the first step to understanding.
2. Animals have special adaptations that make them unique and help them survive in their environment.
3. There is usually one distinguishing characteristic that determines an animal's phylum.

Outcomes:

Upon completion of this class, students will be able to:

1. Understand why dissections are important, and develop a curiosity towards creatures of the sea.
2. Learn to identify animals based on multiple characteristics, adaptations, and information.
3. Learn how to handle, touch, and observe live vertebrates and invertebrates.

South Carolina Standards met:

5th Grade:

5.L.4A.2 Obtain and communicate information to describe and compare the biotic factors (including individual organisms, populations, and communities) of different terrestrial and aquatic ecosystems.

6th Grade:

6.L.4B.1 Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics.

6.L.4B.2 Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.

Florida Standards met:

5th Grade:

5.L.14.1 Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support.

5.L.17.1 Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.

6th Grade:

6.L.15.1 Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.

9th-12th Grade:

912.L.15.5 Explain the reasons for changes in how organisms are classified.

912.L.15.7 Discuss distinguishing characteristics of vertebrate and representative invertebrate phyla, and chordate classes using typical examples.