

Invertebrate Diversity Lab

Grade Level: All

Timing: 1 hour

Summary: This lab is a part of our core curriculum and appropriate for all grade levels. Students will briefly be introduced to the concept of diversity and how stable diversity corresponds to a stable, healthy habitat. Students will identify and count the number of invertebrates they find on the live rock staff collected from Largo Sound. The lab concludes by staff projecting a sample of every species found for all to see and discuss.

**** service learning option available **** (This option includes data collection and analysis. Suited for advanced students.)

Program Objectives:

Students will be able to...

- Use the common characteristics of marine phyla to identify specific species of invertebrates
- Understand the association of a healthy, diverse community and a healthy, stable environment

Concepts:

- Diversity of invertebrates found in protected areas such as algae covered rocks
- Phylum characteristics of observed organisms
- Association between high diversity and a healthy, stable environment
- Fragile nature of the environment
- Concept of indicator species
- Environmental impact studies

Vocabulary: invertebrate, diversity, abundance

Procedures: The lab begins with a brief discussion relating diversity of a habitat to healthy and stability. Each pair of students are given live rock collected from Largo Sound and tools to identify all invertebrates found living on their rock. A staff person will collect a sample of every species the group finds and project each invertebrate on a large screen for the entire group to identify and discuss.

Extensions: The same concept and procedure can be applied to any microhabita



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Standards:

Next Generation Sunshine State Standards

SC.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.

SC.5.L.15.1: Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.

SC.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.

SC.912.L.17.5: Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.

SC.912.L.17.6: Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.8: Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.

Ocean Literacy Principles:

Principle 5. The ocean supports a great diversity of life and ecosystems.

d. Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms (symbiosis, predator-prey dynamics, and energy transfer) that do not occur on land.

