

Zooplankton Lab

Grade Level: All

Timing: 1 hour

Summary: Students will be introduced to plankton, with a focus on zooplankton, and the overall role of plankton in the ecosystem. Students will use stereoscopes to observe and identify zooplankton.

Program Objectives:

After completion, students will be able to...

- Identify 5 different species of zooplankton
- Use a stereoscope and to observe plankton
- Explain the role of plankton within the food chain

Concepts Covered:

- phytoplankton vs. zooplankton
- holoplankton vs meroplankton
- Functions of bioluminescence
- Plankton's niche in food web
- Identification of collected specimens
- Phytoplankton's role in oxygen production
- Plankton adaptations

Vocabulary: plankton, nekton, zooplankton, phytoplankton, holoplankton, vertical diurnal migration, bioluminescence

Procedures: A MarineLab instructor will lead a discussion on concepts and vocabulary listed above while another instructor conducts a plankton tow in Largo Sound. The samples are brought back to MarineLab where bioluminescence is showed off and discussed, slides are made, and students work in pairs with stereoscopes to ID zooplankton in their slide. Select slides will then be projected for all to see and discussed to confirm identifications.

Extensions: MarineLab also offers a more in depth phytoplankton service learning program that can be incorporated into the school program in addition to the zooplankton program or as a substitute for the zooplankton program.



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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.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.7.L.17.1: Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.

Ocean Literacy Principles:

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

a. Ocean life ranges in size from the smallest living things, microbes, to the largest animal that has lived on Earth, blue whales.

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.

