Advanced Invertebrate Behavior and Morphology Lab

Grade Level: High School or Above

Summary: Marine invertebrates exhibit a variety of behavioral and morphological adaptations which allow them to survive in various habitats within the marine environment. Students will observe some of these adaptations firsthand while conducting short experiments. The observations are meant to allow students to draw conclusions regarding the invertebrates' in situ behavior but also make the students begin to ask questions.

Program Objectives:

- Students will observe the correlation of behavior and morphology
- Students will use a dichotomous key to identify invertebrates
- Students will observe behavior of invertebrates and use these observations to draw conclusions and to ask questions
- Students will observe the behavioral differences involved with taxis and kinesis

Concepts Covered:

- Unique behavior mechanisms among marine invertebrates
- Correlation between behavior and morphology
- What invertebrate morphology and behavior can tell us about the invertebrate's niche and the environment it lives in
- How to use a dichotomous key
- Common characteristics among species within a phylum and the different uses of these characteristics among these species
- The role of observation in scientific research
- Difference between taxis and kinesis
- Correlation between behavior and adaptation

Vocabulary: invertebrate/vertebrate, behavior, dichotomous key, morphology, observation, niche, taxis, kinesis, adaptation, stimulus

Procedures: Instructor will discuss behavior and morphology and how these two concepts are related to each other and to specific invertebrate adaptations. Each group will be given species from a specific phylum. They will use a dichotomous key to determine the species in their bucket and the phylum they belong to. Students will conduct experiments as described and will share observations with peers. If applicable, the behaviors are classified as taxis or kinesis. The importance of observation in the scientific method is emphasized.

Resources: *www.biologicaldiversity.org, "Animal Behavior," Drickamer, Vessey, and Meikle, www.scienceclarified.com*

A Marine Resources Development Foundation Program
PO Box 787 Key Largo, FL 33037
(800) 741-1139 Fax (305) 451-3909
www.marinelab.org
Last Updated: 6/12/2016

A Marine Resources Development Foundation Program
PO Box 787 Key Largo, FL 33037
(800) 741-1139 Fax (305) 451-3909
www.marinelab.org
Last Updated: 6/12/2016