The Sub-Seabottom Biosphere
Instructor Guide

Introduction:
Course: This activity is designed for introduction to marine science.
Time: ~1 hour in-class, ~3 hour take-home assignment (flexible)
Materials: Activity documents provided, online video
Student preparation: general understanding of marine science
Summary: This activity introduces students to understanding life and how it is studied in the deep ocean. It also familiarizes the students with scientific papers and reading abstracts.
Purpose:

1. Investigate life in the deep ocean and how it is studied.
2. Know how to read abstracts from scientific papers.

Resources:
The Sub-Seabottom Biosphere (with 3 abstracts)
Website links: C-DEBI introduction video:
https://www.youtube.com/watch?v=6Hv_JF7_ECQ#t=168
The Sub-Seabottom Biosphere PPT presentation

Activity Outline

1. Assign students the "Sub-Seabottom Biosphere" handout as a take-home assignment.
    a. Students will watch the online video on C-DEBI. Then students will read three abstracts and answer questions that guide them through the abstracts.
    b. Instructor selects one student for each abstract to lead a discussion in-class. Selection can be based on quality of answer to questions.
2. In class, instructor gives background information to life in the sub-seabottom biosphere, using provided PPT as needed (~30 min)
3. Instructor has designated student leader for abstract #1 lead discussion (10 min)
    a. Student summarizes his/her understanding of the abstract
    b. Student leader asks questions to peers from the assignment.
    c. Class discusses the abstract.
4. Repeat with abstract #2 and #3 (2 x 10 min = ~20 mins)

Note: Depending on time and preference, instructor may assign students only 1 or 2 of the 3 abstracts. Alternatively, abstracts can be assigned accordingly to be read in pairs in class.

TOOLKIT CREDITS:
Developed by Esat Atikkan, (Montgomery College, MD) with support by the rest of the C-DEBI Collaborative Toolkit Team.

WEBSITE:
http://www.coexploration.org/C-DEBI/toolkits_biology.html