

Trial/Pilot Event

Contact the organizers of your tournament to find out what trial/pilot events will be held.

Ecosystems: MARINE BIOLOGY B

DESCRIPTION: This event is a lab-oriented competition involving fundamental science processes of a middle school program using marine life topics. It is not meant to be a comprehensive marine course. Students will be expected to know characteristics of mollusks, crustaceans, major biotic and abiotic features of an estuary, recognize beach sand from Atlantic, Pacific, Caribbean and Gulf, answer questions relating to classification of marine environments, know effects of marine debris on sea life, world ocean stewardship, and some tools and equipment used to study the underwater world. This event consists of a series of biological questions or tasks that involve the use of one or more process skills.

A TEAM OF UP TO : 2

APPROXIMATE TIME: 45 minutes

EVENT PARAMETERS: Safety goggles are required. Students may bring one key for identifying marine organisms, the official or set of pre-printed stick on labels list and a maximum of 5 3 x 5 index cards with notes. No electronic devices or other resources will be allowed. Event Supervisor will not provide any resources or materials. Measurements must be made to the accuracy of the device. A page of suggested areas of study can be found on the Official Science Olympiad Web Page at <http://www.soinc.org>

THE COMPETITION: This event will consist of a series of lab stations. Each station will require the use of process skills to answer questions and/or perform a required task such as formulating and/or evaluating hypotheses and procedures, using scientific instruments to collect data, making observations, presenting and/or interpreting data, or making inferences and conclusions.

SAMPLE QUESTIONS: Some samples of possible stations might include:

1. Using a compound microscope and stereomicroscope. [observe and identify composition of beach sand and identify makeup of a sample of plankton]
2. Using a pipette, refractometer, hydrometer, thermometer, to collect data [determine salinity and temperature of water sample]
3. Using indicators to test for pH. [determine pH of water from aquarium]
4. Using or formulating a taxonomic/dichotomous key. [identification of marine ingredients in a seafood gumbo]
5. Interpreting data tables, charts and graphs. [pertaining to changing conditions in and economic and ecological values of an estuary]
6. Making predictions and observations. [given a graph of annual catches of snapper and shrimp in last 25 years]
7. Making inferences and conclusions based upon collected data and observations. [table of debris produced by each person per day]
8. Metric depth estimation of the sea, density, availability of light. [given a classification of marine environment profile]
9. Drawing conclusions [given results of before/after recycle bins were placed at the boat docks and number of helium balloons released each year across the US ending up in ocean]
10. Formulating and/or evaluating hypotheses and procedures. [determining the biotic food web of a changing estuary]

SCORING:

Points will be awarded for correct answers and/or proper technique. Scores of teams will be ranked from highest to lowest score. All ties will be broken using a designated task or series of questions that are part of the lab test or a separate station designated as a tiebreaker.