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## ***What is a Discovery Cruise?***

**OceanQuest** is unique! The Discovery Cruises give students an introduction to the major disciplines within oceanography. During a 2-hour cruise students are actively involved manipulating equipment, collecting data, and discovering the wonder of ocean sciences.

All life on Earth is interconnected and in the total scheme of existence, without our seas, life as we know it could not exist. It is the OceanQuest mission to motivate and educate students to the wonders of science through hands-on learning experiences at-sea and give students the tools to make well-informed decisions about fragile marine ecosystems that will ensure a healthy sustainable ocean.

Time during the cruise is divided among three stations. Students are given the appropriate data sheets for the work they will be doing and everyone actively participates in this mini ocean research voyage. Teachers and/or group leaders can use the data collected in follow-up sessions and the data will be used by OceanQuest to compile a baseline database for future use. This data may show students trends in fish populations, seasonal plankton abundance, temperature and salinity variances, and other basic oceanographic details from the study area.

In the stern of the vessel students are concentrating on the biological aspects of oceanography. This group puts out the plankton net to capture the various species of plankton present in the area. They may observe the setting of a bottom dredge or otter trawl that are towed to capture organisms that live near or on the ocean floor. The group observes and handles the diversity of life and makes observations about the diversity or lack thereof. A bottom grab is sometimes used to sample infauna (organisms which live in the bottom sediments).

In the bow students are operating the instrumentation and equipment useful to study physical and meteorological oceanography. This group uses a water sampler to collect water to determine water temperature, density and salinity, enabling the group to see possible differences in the water character at different points within the water column. The group may be able to determine thermoclines and salinity gradients. A Secchi disk is used to determine turbidity and a Forel/Ule scale is used to determine the color of the water.

In the cabin the group explores basic chemistry of seawater. Here students will determine dissolved oxygen and carbon dioxide, pH, and salinity. These are the basic chemical parameters that affect the quality and diversity of life in the study area.

There are other projects the groups may undertake as well; too numerous to list and outline here. **Teachers and group leaders are encouraged to request specific tasks for their group before they arrive.** The OceanQuest staff will assist teachers and group leaders design a program that will be the most relevant, comprehensive, interesting, and fun for their particular group.

OceanQuest cruises depart from the Waterfront Park on Water Street, Woods Hole, MA. The vessel is fully Coast Guard inspected.

OceanQuest is a private non-profit educational organization supported by donations, grants, and fees.

**Hands-on Discovery Cruises** emphasize fundamental skills of inquiry through systematic, first-hand observations of natural phenomena and collections of data. Each 2-hour cruise will have your students actively participating in learning the major disciplines of oceanography. Manipulating research equipment, sampling, observing and handling (when appropriate) sea life they put into our live tank are all part of each cruise. As our “guest scientists” cruise from station to station, professional scientists, educators and mariners encourage inquiry and discovery.

Hands-on teaching and learning techniques provide high quality, relevant, meaningful and FUN experiences for all ages. It is our goal to develop awareness, knowledge and responsible behavior concerning the sustainability of ecosystems upon which all life depends. The cruises are appropriate for all grade levels. Programs are adapted to meet specific objectives and time frames for each group

## Comments from Teachers

- The quality of materials, the boat activity, and the expertise of the presenter – Great! It was always interesting. I feel I really will be able to use the activities presented with my class. The research vessel was an awesome adventure.
- Excellent, excellent, excellent! I have tried other floating classrooms, and I feel there’s no comparison. All marine educators should check out this program!
- ...The crew received rave reviews...the (students) were quite impressed with what they had learned and I was impressed with what they retained, especially details...They wrote in their journals...it was the best writing they have done all year.

## and Parents

- She encouraged our children to participate and made them very comfortable. We learned a lot in a very short period of time. We’re looking forward to more.
- Our second year and we love it! Kyle is 6 and he remembered most everything from his first trip! Keep it up. This is a very good program to get young and old familiar with marine science and its importance and how much fun it is.
- Terrific program – keep up the good work! Very interesting and educational “hands-on” activities that were very motivational for the young children aboard and prompted questions that were answered at a level that they could easily understand. The cruise was a learning experience for adults too!