KENAI FJORDS TOURS

Marine Biology

PROGRAM DESCRIPTION

The goal of the Marine Science Explorers Program is to provide students with an exceptional learning environment, to help students understand and appreciate the marine ecosystem in the Gulf of Alaska, and inspire interest in Marine Science. During the five-hour cruise, we explore beyond the surface of the water. Students are introduced to sampling techniques and lab activities as they investigate seawater and plankton. Students observe marine mammals and seabirds in their natural habitat and consider their adaptations. In this living laboratory, students are encouraged to examine how these pieces fit together into an ecosystem concept.

It is our hope that this program helps students to progress from casual to intrigued observers and from recipients of information to active investigators. On a perfect day, we will help generate more questions than we answer.

The five-hour field trip will be divided between cruising Resurrection Bay and participating in four different learning stations. One instructor staffs each thirty-minute station. We ask that each group be accompanied by a teacher or chaperone. A synopsis of each station follows:

✳ **Seawater Analysis:** The physical properties of seawater determine much of the ocean's dynamics: currents, stratification, and the distribution of ocean life. Students will collect seawater, measure density and temperature to determine salinity, and use a Secchi disk to measure turbidity. Students will record their results on a data sheet.

✳ **Plankton Analysis:** A cup of seawater is quite ordinary viewed by the naked eye. A few drops set up under a microscope reveal a multifaceted population of plants and animals. Just because they escape our unaided eye, we should not underestimate their importance in sustaining life as we know it in the ocean. Students will use a plankton net to collect samples for microscope viewing. Twelve microscopes on board assure everyone an opportunity for observations. Students will be asked to draw plankton they observe and to estimate size and concentration. An identification chart of common plankton will be available; however the emphasis will be on observation, not identification.

✳ **Seabirds and Marine Mammal Adaptations:** Conditions in the North Pacific, particularly in the Gulf of Alaska, support an abundance of plankton, which in turn supports a wide variety of sea life. The Gulf of Alaska is home to over 73 species of seabirds. As many as twelve different species of marine mammals can be viewed in Resurrection Bay. Students will discuss the adaptations of these animals to a marine environment and then compare and contrast those adaptations. Horned puffins and humpbacks have more in common than you think! Students will be aided in their investigations by bird study skins and mammal skulls and pelts. Observations of the bird and mammals throughout the trip will be recorded on the wildlife checklists provided for each student.

✳ **Fjord Ecosystems:** An ecosystem is a collection of all the living and non-living things found in a given area, in our case Resurrection Bay. How do the organisms within this area relate to one another? How do the organisms that live here interact with the non-living parts of the environment? We will explore the roles of producers, consumers and decomposers by observing the controlled environment of the aquarium and constructing a food web of Resurrection Bay. The scope of ecology concepts introduced and discussed in this section will be dependent on the background of the group. The emphasis for all groups will be on the interdependency among the living organisms and non-living factors in an ecosystem.

Marine Biology
2022
April 18 - May 20

Marine Mammals & Seabirds ✶ Plankton Analysis
Estuary & Ecosystems ✶ Seawater Analysis

The Marine Science Explorers Program began as a notion: How could you turn a ninety-foot aluminum whale watching boat into a place where kids and adults could explore the marine environment? With some extra equipment, a bit of creativity and a lot of hard work, our boats can transform from a sightseeing vessel into a floating laboratory/classroom. Passengers became active observers and explorers', inquiring into what makes Resurrection Bay a unique place. Since 1995, over *forty-four thousand* students and adults have participated as marine science explorers.

Students will:

✶ Investigate the fjord and estuary ecosystem of Resurrection Bay.
✶ Use a Niskin tube to collect seawater, then use thermometers and hydrometers to determine the salinity of the sample.
✶ Use a Secchi disk to ascertain the turbidity of the water.
✶ Use a plankton net to collect phytoplankton and zooplankton for examination under microscopes.
✶ Observe interaction of South-central Alaska's intertidal organisms in a saltwater aquarium.
✶ Examine study skins of Alaskan seabirds and discuss marine mammal and seabird adaptations to the subarctic marine environment.
✶ Observe mammals and seabirds in their natural habitat and view the bustling spring activity at Cape Resurrection!

Length of Trip: 5 hours
Price: $53.50 per person (1 comp for every 15). Plus City of Seward port fee: $3.50 per person.
Total per person: $57.00
Deposit and payment requirements: $25/person due February 1st. Remainder due on day of departure.
Maximum number of participants: 80 (will be divided into 4 groups)
Recommended ages: Grades 3 through 12
Departure Information: 10:00am–3:00pm, Check in 9:30. Board 9:45.
Please remember to:
✶ Bring brownbag lunch and pencils. ✶ Bring a complete name list of everyone that will be on board, for the US Coast Guard. ✶ Dress warmly.

To make reservations, or obtain further information, please call or email our Group Reservation Desk.
✶ 1-877-476-8775 ✶ kftgroups@kenaifjords.com ✶
We look forward to helping you plan this educational adventure for your student.