

Journey

TO THE



OCEAN



S.T.E.M. & MARINE-BASED FIELD TRIP PROGRAM

Engage your students with a one-of-a-kind learning experience.

Journey to the Ocean is a hands-on science program for students in 1st through 6th grades based on CA Common Core State Standards and Next Generation Science Standards. With grade specific activities designed to enhance traditional classroom learning, your students are bound for success.



Your 4 - hour program runs from 9am - 1pm and features 2 activity stations:

Station #1

Pontoon boat-based, on-the-water activity cruising around scenic Newport Bay.

Station #2

Classroom and dock-based activities focusing on marine-based subjects which support STEM, Life and Physical Science, Language Arts, History, Investigation, and Math skills.

Activities Include

- Design, Build & Race Mini Catamaran Boats
- Underwater Camera & Microscope Investigation
- Touch Tank Discovery – Sharks, sea slugs and more!
- City Pollution & Water Filter Discovery
- Harbor Excursion & Sea/Bird Life Exploration



Bring your lunch for a picnic on the lawn!



\$35-40 per student. Teachers & chaperones attend for free!

Book Your Field Trip Today!

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ORANGE COUNTY COUNCIL



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JOURNEY TO THE OCEAN

FIELD TRIP ACTIVITY DESCRIPTIONS (1-3 GRADE)



FIRST GRADE

SECOND GRADE

THIRD GRADE



Station 1: Dock Life Lab

Students learn about the bay's biodiversity and habitats via dock life examination. By laying on the docks and using underwater cameras, they examine mussels, sea squirts, crabs, and more! Students learn about the survival techniques used by mussels and other sea creatures. They also learn that the changing tides contribute to the biodiversity on the docks. This lesson develops their classification and math skills as they discover new and interesting intertidal life at the Newport Sea Base.

CCSS: 1.MD.A.1; W.1.7
NGSS: 1-LSS-1-1



Station 1: Rain Gutter Regatta

Students build their own mini-sail boat by racing it in an inflatable raceway while making note of performance and speed. Students first learn about the basic design of a sail boat. They observe 3 types of trial boats with different sail designs and note the functionality of each. After analyzing the strengths and weaknesses of each trial boat, students design, measure, cut out, and color their own sails for their boat. Students participate in a race in to see which boat can travel a distance of 10 feet the fastest. Who will be the champion?

CCSS: W.2.8; 2.MD.A.1; 2.MD.A.3
NGSS: K-2-ETS-1-1; K-2-ETS-1-2; K-2-ETS-1-3



Station 1: Pollution Exploration

Students learn about urban runoff and its negative effects on the ocean water quality and wildlife. They learn how pollution gets into our water sources in a variety of settings placing an emphasis on our community with non-point and point source pollution. Students participate in a hands-on simulation, and take water samples from different polluted scenarios that certain homes in their community will experience. The search for clean water begins! Students will also participate in an outdoor race to clean up their "community" learning about the water cycle and how pollution can end up in our waterways.

CSS: RI.3.7
NGSS: 3-LS4-4



Station 2: Harbor Birding 101

Birds are the most easily observed forms of vertebrate life on Newport Harbor. On a pontoon boat, students participate in a point count survey where they will count and classify birds using binoculars and their data tracking forms. Students discuss how different birds use their body parts uniquely for various tasks. By seeing the wildlife in their habitat, students also begin to understand the effects that noise, water and land pollution have on the birds and how they adapt to the environment.

CCSS: 1.MD.4
NGSS: 1-LS3-1; 1-LS3.B



Station 2: Mariners in the Making

Students cruise Newport Harbor on our pontoon boat, where they learn map skills, cardinal directions, and demonstrate their navigation capabilities to help direct the boat. They also learn about the nautical alphabet, explore geometric shapes in the code flags, and discover each flag's purpose for messaging on the water. They use their newly discovered alphabet to create a code flag necklace and solve tricky word puzzles. Boat captains highlight historical landmarks throughout the trip. Students can also spot sea animals such as sea lions and rare, local birds as they venture through the harbor.

CCSS: 2.G.A.1; HSS.2.2.1; HSS.2.1



Station 2: Wetland Wonderland

Students learn about wetlands and identify animal and plant life. Students participate in an ecological study via sediment/mud grab, and learn about the local food chain and how all species in a habitat depend on each other. They also learn about how different species adapt to the environment for survival. Using field tools, students uncover interesting plants and animals. Species are brought into the indoor microscope laboratory to be further investigated. Students get hands-on with the outdoor touch tanks which include local bay sharks.

CCSS: LS.3.4
NGSS: 3-LS3-2; 3-LS4-3

JOURNEY TO THE OCEAN

FIELD TRIP ACTIVITY DESCRIPTIONS (4-6 GRADE)



FOURTH GRADE

FIFTH GRADE

SIXTH GRADE



Station 1: Plankton/Dock Life Lab

Students learn about the importance of plankton for human and sea animal life. Using specialized nets, students catch different types of plankton and use microscopes to identify and notate their findings.

Students learn about the bay's biodiversity and habitats via dock life examination. They examine mussels, sea squirts, and crabs using field tools and underwater cameras! Students learn about the survival techniques used by sea animals like mussels.

CCSS: 4.G.A.3
NGSS: 4-LS1-1

Station 1: Ocean Hazard Engineers

Students explore major ocean hazards/disasters such as oil spills and tsunamis. They explore oil spills in the Gulf of Mexico and local areas. In a hands-on experiment, they test and analyze different materials and methods to clean up simulated ocean oil spills. As "engineers," students notate the effectiveness of different clean up methods, and create an invention that effectively cleans oil from water without harming the environment. Cost, material, and time are some of the engineering factors considered.

CCSS: RI.5.7
NGSS: 3-5ETS1-2; 5-ESS2-1; 5-ESS3-1

Station 1: Beach Landslides & Erosion

How are beaches disappearing? How do we play a role in making erosion worse along our shoreline? How are we affecting animals? Students learn about topography and how water moves rock and soil to shape California's landscape. Get hands-on and create miniature cities and basic structures that will undergo a variety of different landslide/erosion scenarios on a beach shoreline. Students find solutions and experiment to prevent damage to the land which could affect homes, plants, animals, and shoreline habitats.

CCSS: RST6-8.3
NGSS: MS-ESS2-2



Station 2: Secrets of Skeleton Cove

Students learn about marine archaeology and California history while on a pontoon boat where they visit Skeleton Cove to recover artifacts that sunk in the ocean during the early 1800's. Using clues around the bay students assist in making new artifact discoveries which could uncover hidden skeletons, treasures, and historic relics from long ago.

Good luck explorers and may you uncover the Secrets of Skeleton Cove!

CCSS: HSS.4.2.3; HSS.4.1.4

Station 2: Plankton/Dock Life Lab & Birding 101

Students learn about the importance of plankton for human and sea animal life. They learn how plankton (plant and animal forms) use matter such as air, water, and decomposed materials as food to grow via photosynthesis, and how they serve as food for many other ocean animals. At the research labs (dock-side), students use plankton nets and microscopes to further their study.

Students also board a pontoon boat and use binoculars to spot and learn about interesting harbor birds highlighting their unique characteristics.

CCSS: RI.5.7; SL.5.5
NGSS: 5-PS3-1; 5-LS2-1

Station 2: Plankton/Dock Life Lab & Birding 101

Students learn about the importance of plankton for human and sea animal life. At the research labs (dock-side), students use nets and microscopes to examine their plankton catch. Additionally, they examine mussels, sea squirts, and crabs using field tools and underwater cameras. Students learn how environmental factors influence the growth and development of certain species such as mussels.

Students also board a pontoon boat and use binoculars to spot and learn about interesting harbor birds highlighting their unique characteristics.

CCSS: RI.6.7; SL6.5
NGSS: MS-LS1-4; MS-LS2-1; MS-LS1-7