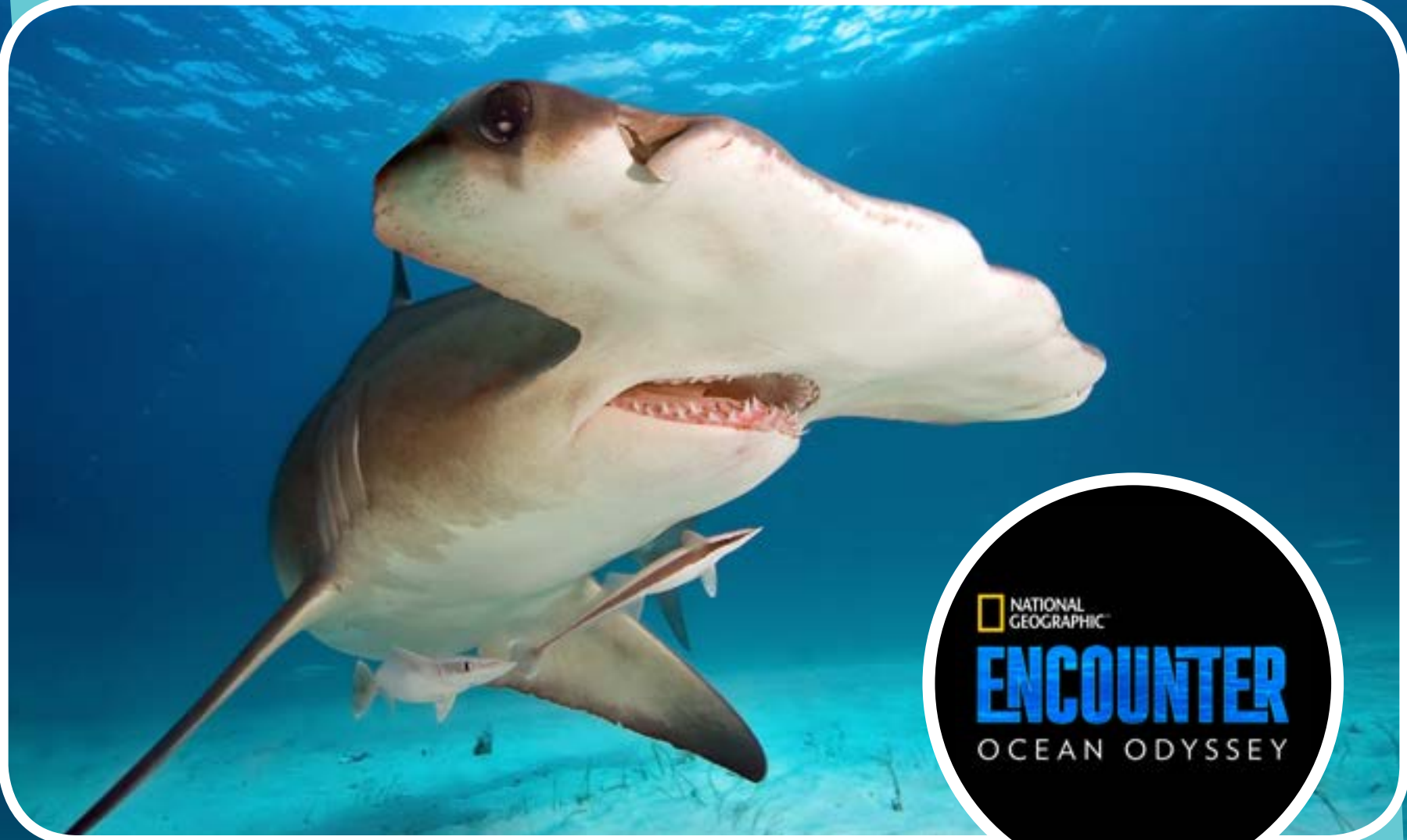
Camps and Clubs Guide



About National Geographic Encounter: Ocean Odyssey

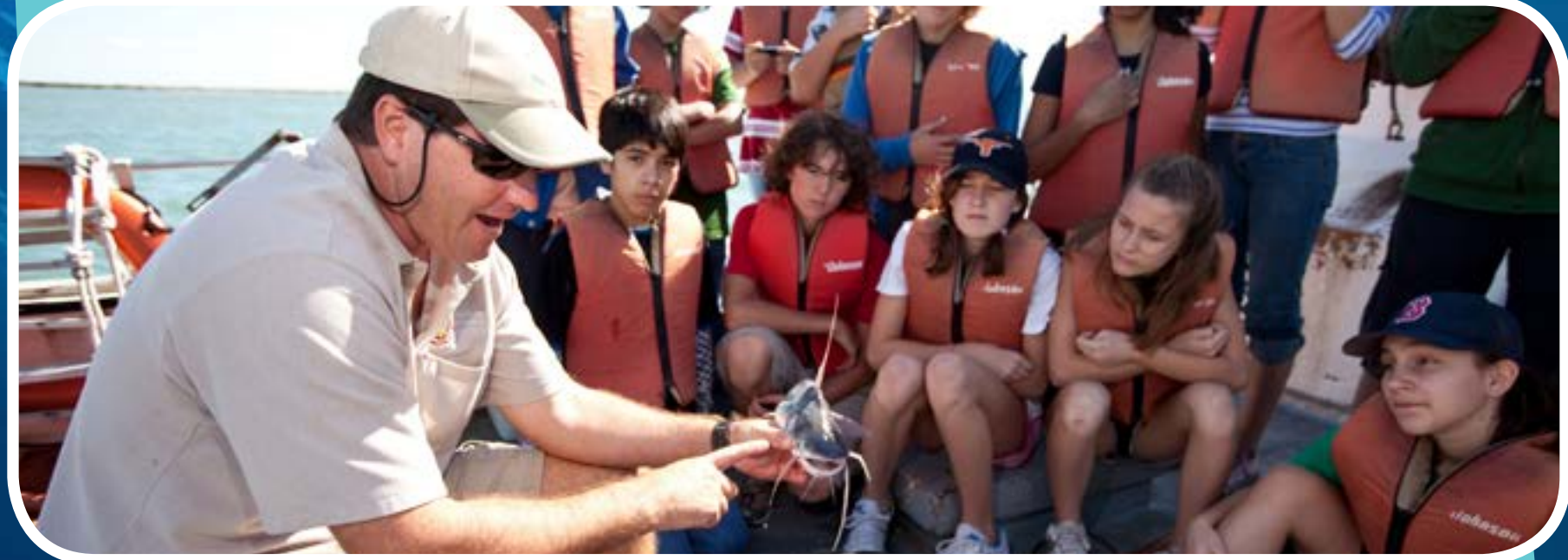
National Geographic Encounter is a first-of-its-kind, truly immersive experience that opens with *Ocean Odyssey*. Using technology, students embark on a virtual underwater journey across the Pacific Ocean, exploring some of the ocean's greatest wonders and mightiest creatures. Created in a 60,000-square-foot space in Times Square, students can walk across an ocean floor and investigate a variety of ecosystems that come to life through groundbreaking technology. Video mapping, 8K photographic animation, mega-projection screens, sound, and interactive, real-time tracking bring students face-to-face with sea life—from great white sharks and humpback whales to Humboldt squids and sea lions.

At the completion of the transect, students resurface to learn more about the creatures and habitats they encountered. They engage further with more interactive technologies—such as holograms and touch screens—that highlight important ocean conservation and scientific research themes.

Visit *National Geographic Encounter* for more information on how your students can have the ultimate undersea experience without getting wet!

Using the Ideas for Camps and Clubs

This guide provides resources to support engagement and learning as individuals interact with *National Geographic Encounter: Ocean Odyssey*. This guide includes five project ideas that camp and club leaders can use with their participants to spark interest in ocean species and ocean conversation. Use one or more of these five ideas before attending *National Geographic Encounter* to engage in projects on ocean-related topics or after attending the experience to reflect on their interactions while there.



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Project Ideas

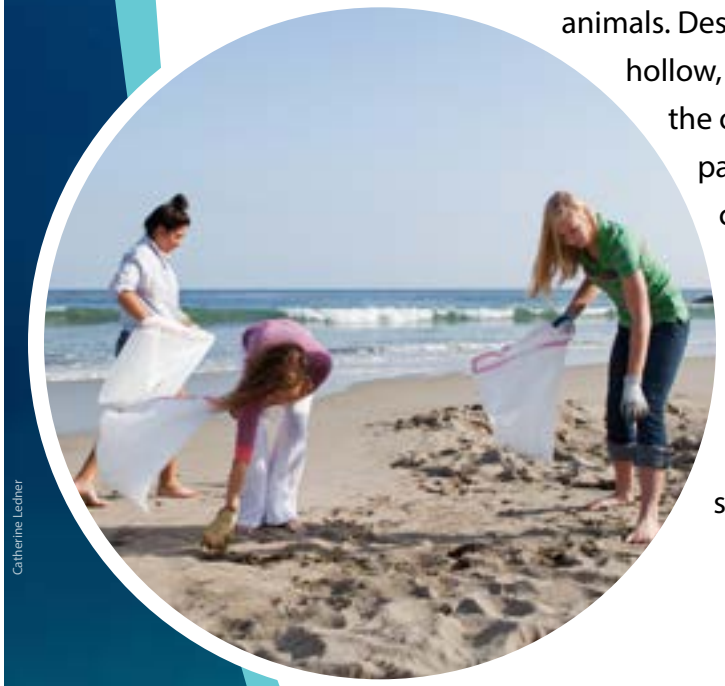
Track Sharks

Monitor the movements of tagged white sharks, common threshers, tiger sharks, hammerheads, and silky sharks using Global Shark Tracker. Compare the locations of different shark species across the globe and determine which species tended to travel the greatest distance in the past year. Then, select a specific individual and report on its age, size, and travel history. Keep track of your shark over the course of a week or month to see how far and fast it travels.

For an example of how tracking whales can be used for research and conservation, visit: http://blueyork.org/whales.

Raise Awareness for Marine Debris Disposal

Select a marine organism and research what it feeds upon, keeping in mind that predators consume organisms that have already consumed other material. Research the types of marine debris commonly found in the ocean and consumed by animals. Design and create a hollow, craft version of the organism using papier-mâché, cardboard, or plastic containers, leaving an opening near the stomach or creating a see-through window to the stomach. Collect small pieces of non-biodegradable debris that might make its way into the ocean and place them inside the organism's stomach, or fill the stomach with plastic materials that students commonly find on the ground, highlighting the connection between terrestrial litter and aquatic pollution. Create a poster or placard explaining how non-biodegradable material can build up in the digestive tracts of marine organisms. You can display the organism and placard at your local community center or library to raise awareness for proper disposal of trash.



Catherine Ledner

For an example of art being used to raise awareness on a large scale, visit: https://www.wcs.org/our-work/regions/new-york-seascape.

Clean Up a Local Waterway

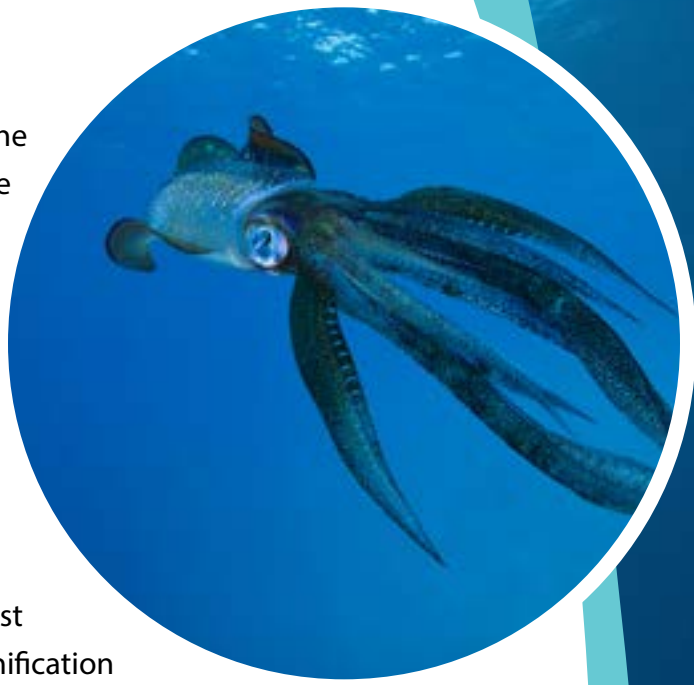
Select a local stream or river and conduct a cleanup of non-biodegradable debris. Take proper safety precautions while cleaning by wearing sturdy gloves and shoes in case you find hazardous

material. Categorize and quantify the debris according to your own classification system or use the categories from the Ocean Conservancy's Coastal Cleanup program. Compare quantities with the Ocean Conservancy's 2016 Trash Index based on beach cleanups worldwide. Then, use GoogleEarth to try to identify a pathway linking your waterway to the nearest ocean in order to highlight the connection between local waterways and oceans.

For an example of a group of students working to increase biodiversity in their local waterway, visit https://www.billionoysterproject.org/.

Role-Play a Food Web

Identify several marine organisms at different trophic levels and research what each organism feeds upon. Role-play the predator-prey interactions between species by using strings to show connections between organisms. Research the organisms living within a local freshwater stream, river, or lake and compare the food web of the local waterway to the oceanic food web. Then, identify the apex predators within each web as those at greatest risk of biomagnification of toxins and/or extinction.



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For an example of the importance of apex predators to food webs and ecosystems, visit: https://blueyork.org/.

Propel a Squid

Up-cycle plastic bottles, bags, and cardboard tubes to create a model squid with eight arms and two longer tentacles. To create an even more realistic

squid, include two large eyes below the mantle and two fins at the top of the mantle. Squids move through water using a propulsion system, which you can model using balloons filled with water or by combining small amounts of vinegar and baking soda that is vented through a small hole in the bottle.

Inspire Marine Conservation

Brainstorm a message of marine conservation that should be shared with other people. Is it the importance of keeping our oceans clean? Is it saving endangered marine species? Whatever it is, how can you inspire others to take action in marine conservation? National Geographic Emerging Explorer Asher Jay shares her message of ocean conservation through her Message in a Bottle project. Have your campers create their own message in a bottle that speaks to the ocean conservation message they want to relay to others by decorating a recycled plastic bottle to illustrate their marine conservation message.

For more information on Message in a Bottle and examples of Asher's work visit: http://www.seaspeaksphere.com/ripples-of-reform/message-in-a-bottle/.

Share pictures of camper's completed message in a bottle with @NatGeoEncounter using #CleanOceanOdyssey.

Make sure you have received permission prior to posting on social media.

Credits

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