

From Shore to Sea



The oceans of the world cover over 70 percent of the earth's surface and have an impact on the entire planet. Important ecosystems exist in river estuaries, salt marshes, and along coastal shorelines and coral reefs.

Whether eating a tuna fish sandwich, or reading about an oil spill, you are connected to a resource often taken for granted. So get out your wading shoes and see an awesome sunrise or gulls in splendid flight as you set off to sea.

Skill Builders

1 Learn about the creatures that inhabit ocean tide pools and the rocky shoreline. Discover these creatures firsthand or at a saltwater aquarium exhibit. Find out which creatures are filter feeders, grazers, predators, or scavengers, and observe their feeding habits. Compare and contrast the methods of protection, camouflage, and movement of each organism. Compare the rocky coast plants and animals with those of the sandy beach and salt marsh.

2 Become a geological detective. Using a magnifying glass or microscope, study a handful of sand. With the help of a geologist or earth science teacher, or a geology book about the region, identify at least three different kinds of rocks, particles, or minerals in the sand. If possible, learn about the history of the sand by consulting a geological map or book about the area.

3 The oceans and large bodies of water such as the Great Lakes influence global weather and climate patterns. Determine what effect the major bodies of water have on the weather, including hurricanes, cyclones, and tsunamis.

4 What are some of the environmental concerns about the extraction and mining of ele-

ments from the sea? What kinds of safety precautions should be or are being taken? Describe and illustrate your findings or discuss them in your troop or group.

5 Investigate global warming. What role do oceans play in the process? Find at least two different studies going on regarding global warming and two actions taken by world governments to deal with causes and/or concerns. Consult your science teacher, group leader, or another adult for help. Present your findings in a discussion, using visual aids as needed.

6 Create a piece of art, a collection of poems, a slide or video show using pictures and music inspired by the ocean, or something else water-related. Share your work with family members or your troop or group, and explain to them the role the ocean played in inspiring you.

Technology

1 Tour a boat used in deep-sea fishing or in marine biology studies. What kinds of equipment are used to navigate, to find the depth of the ocean, or to perform studies?

2 Find out how scientists use sonar, satellites, and super-computers to explore the deepest reaches of the oceans without getting wet.

3 From water wheels to hydro-electric plants, people have been using water power for centuries. Pick one of the following technologies to learn how modern scientists continue to explore ocean energy to meet the growing demand for power:

- Ocean thermal energy conversion.
- Wave and tidal power.
- Ocean currents.

Keep the following questions in mind as you explore: How does this technology work? Can it be used anywhere in the world? Are there any potential health or ecological risks associated with it?

4 There is a tremendous need for fresh water in countries all over the world, yet the majority of the world's water is found in oceans which contain salt. Research and then try out one way to distill fresh water from salt water.

5 What kinds of technology are being used to predict the tremendous storms that can devastate coastal regions? Each year, tsunamis, hurricanes, cyclones, tidal waves, and storm surges cause many deaths and destroy property. Find out about a storm that might impact your area or one in which you have an interest. Find out how the storm is tracked, how warnings are issued, and what the procedures are for safety and evacuation.

Service Projects

1 Assist with a local project that involves ecological studies of aquatic species. Work with a scientist or researcher to interpret your data.

2 Volunteer time with a marine conservation or education organization, such as a nature center or aquarium. Help educate the public about the importance of marine ecosystems.

3 Assist with a clean up of a water habitat. Volunteer to publicize a clean-up day by designing and/or distributing fliers.

4 Create an educational game for younger girls that will help them learn more about the oceans.

Career Exploration

1 Develop a list of 8–10 careers in the field of oceanography. Include a brief description of each. Interview or read about someone in one of these fields and find out what her work entails.

2 Investigate at least two Sea Grant institutions concerned with research, education, and exchange of technology regarding coastal, marine, and Great Lakes issues. What kinds of research, career training, or community concerns are being addressed by the universities? Describe two of these concerns.

3 Visit with someone who earns a living from the sea. What are the issues about sustaining ocean harvests? Find out what training, apprenticeships, and education are required for careers in fishing, aquaculture, food production, or mining from the sea.

4 Investigate two tourism careers that are associated with an ocean environment, such as working in an aquarium or on a cruise ship. What kind of training, skills, and education might be needed?

5 Capture the ocean's beauty on camera, sketch pad, or by writing a poem or song about the sea.

And Beyond

FIND INTERESTING INFORMATION AND freshwater and saltwater activities in the Girl Scout book *Exploring Wildlife Communities with Children*.

If you want to dive into the waters further or navigate the scientific seas, try these related interest projects:

- Paddle, Pole, and Roll
- Water Sports
- Smooth Sailing
- Wildlife
- Plant Life
- Eco-Action
- Photography