

Ocean Challenge

Recommended Lesson Plans

High School/Ages 14-18

In addition to the featured curriculum and learning resources you can find [here](#), we also wanted to share some relevant and helpful lesson plans by grade and age range to help enhance your team's learning through the Ocean Challenge. Explore these lessons below that range in duration and topical focus.



Name and Source	Description	Duration, Grade/Age
Keeping Watch on Coral Reefs NOAA Ocean Service	In this lesson, students learn why coral reefs are important, and what can be done to protect them from major threats. In addition to the more commonly known benefits to those near the coastline, this lesson explores reefs as providing new sources of powerful antibiotic, anti-cancer, and anti-inflammatory drugs.	<ul style="list-style-type: none">• Two 45-minute sessions• Grades 9-12• Ages 14-18
Where's the Beach? Investigating Coastline Erosion Protection Nature Works Everywhere by The Nature Conservancy	In this lesson, students compare strong construction materials with the less robust oyster reefs. Using an online tool to find historic tide data in a selected coastal location, students use a hands-on model to explore the use of different materials in protecting coastlines.	<ul style="list-style-type: none">• Four 45-minute sessions• Grades 6-12• Ages 11-18
Fishing for a Future Nature Works Everywhere by The Nature Conservancy	In this set of lessons, students explore sustainable fishing through a specific case study in Peru. These lessons include interactive story maps that explore the Humboldt Current, El Niño, and artisanal fishing; a fisheries management activity using data; and a Socratic Seminar that explores the challenges of open access fishing areas.	<ul style="list-style-type: none">• Five 45-minute sessions• Grades 9-12• Ages 14-18
TED-Ed Lesson: The nurdles' quest for ocean domination From TED-Ed	In this lesson, Kim Preshoff details the nurdles' quest for ocean domination, shedding light on the particular features that allow these pervasive pollutants to persist for entire generations. Nurdles are the tiny, factory-made pellets that form the raw material for every plastic product that we use, from toys to toothbrushes. And while they look pretty harmless on land, they can really wreak havoc on our ocean.	<ul style="list-style-type: none">• 15 minutes or more• Grades 3-12• Ages 8-18



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TED-Ed Lesson: The brilliance of bioluminescence From TED-Ed	In this lesson, Leslie Kenna investigates the magical glow of bioluminescence—and our quest to replicate it. The firefly, the anglerfish, and a few more surprising creatures use this ability in many ways, including survival, hunting, and mating.	<ul style="list-style-type: none">• 20 minutes or more• Grades 9-12• Ages 14-18
TED-Ed Lesson: How Deep is the Ocean? From TED-Ed	In this lesson, Tech Insider's animation on the depth of the ocean puts the actual distance into perspective, showing a vast distance between the waves we see and the mysterious point we call Challenger Deep.	<ul style="list-style-type: none">• 15 minutes or more• Grades 3-12• Ages 8-18
Project Based Learning Unit: Think Globally, Act Locally From Buck Institute for Education	This project allows students to connect how small actions can play a pivotal role in an interrelated, global environment. Students use the scientific process to determine the health and well-being of a local environment and connect their role in the larger watershed to which they belong. Students go out into the field and use the tools of ecologists to collect and analyze data and explore avenues of information sharing.	<ul style="list-style-type: none">• 16-18 hours/ 3-4 weeks• Grades 9-12• Ages 14-18

Additional sites with great resources to explore:

- [Smithsonian Ocean](#)
- [NOAA Ocean Education](#)
- [National Geographic Ocean Education](#)
- [Nature Works Everywhere](#)
- [Scholastic Ocean Collection](#)
- [TeAch-nology Ocean Lesson Plans](#)