

RESOURCE LIBRARY
ACTIVITY : 1 HR

Sea Turtles and the Gulf of Mexico Oil Spill

Students research five species of sea turtles and compare and contrast their size, diet, habitat, range/distribution, and reproduction. Students use a map of the 2010 Gulf of Mexico oil spill to discuss how sea turtles are affected by oil. Then they watch a video about nest relocation and discuss the pros and cons of relocating wildlife during human-induced environmental disasters.

GRADES

4 - 8

SUBJECTS

Biology, Ecology, Earth Science, Oceanography, Geography, Physical Geography

CONTENTS

4 Links, 2 PDFs, 1 Video

OVERVIEW

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For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/sea-turtles-and-gulf-mexico-oil-spill/>

DIRECTIONS

1. Have students research sea turtle species.

Explain to students that there are seven species of sea turtles found around the globe, and they will research five of the seven. Assign small groups of students to learn about one of these five species of sea turtles: green sea turtle, kemp's ridley sea turtle, hawksbill sea turtle, leatherback sea turtle, or olive ridley sea turtle. Tell students that the two other species of turtles are the loggerhead sea turtle and the flatback sea turtle. They will not research those turtles in this activity. Ask students to use the provided National Geographic Animals pages to gather information about their turtle's size, diet, habitat, range/distribution, and reproduction.

2. Compare and contrast sea turtle species.

As a class, organize what students have learned about sea turtles. Project the 5-column chart on the board and write in the following headings: Species, Size, Diet, Habitat and Range/Distribution, and Reproduction. Ask students to fill in the chart for each species of sea turtle. Ask questions to help students compare and contrast the species, such as:

- *What are some differences between the species?*
- *Which species is the biggest? Smallest?*
- *Do any of these species eat the same food?*
- *Do they share the same habitat?*

3. Discuss sea turtles and the 2010 Gulf of Mexico oil spill.

Explain that there was a major oil spill in the Gulf of Mexico in 2010. Show students the map Gulf of Mexico: A Geography of Offshore Oil from the October 2010 issue of *National Geographic* magazine. Point out the Macondo well, the site of the *Deepwater Horizon* oil spill. Show students the loop current and explain that oil travels with the loop current. Ask: *What sea turtle species live in the Gulf of Mexico? Did the oil spill in the Gulf of Mexico pose a possible threat to your species? Explain.*

4. Watch a video about what people did to help sea turtles immediately after the spill.

Have students watch the National Geographic video "Gulf Turtle Eggs Relocated."

5. Have a whole-class discussion about the benefits and risks of moving sea turtles.

Check students' comprehension. Ask:

- *Would the hatchlings survive if they were left on Gulf shore beaches? Explain.*
- *If the sea turtle hatchlings survive to adulthood, what effects could the move have on their new habitat in the Atlantic Ocean?*
- *Do you think that moving the sea turtle nests was a good idea? Why or why not?*

Have each student independently write a response to the guiding question: How have sea turtles been impacted by the 2010 oil spill in the Gulf of Mexico?

Modification

If you have a limited number of computers in your classroom, you can print out the reference pages from National Geographic Animals for groups of students to do their research.

Informal Assessment

Evaluate student comprehension of the different species of sea turtles based on the points they highlight during the creation of the comparison chart and their written responses to the guiding question.

OBJECTIVES

Subjects & Disciplines

Biology

- Ecology

Earth Science

- Oceanography

Geography

- Physical Geography

Learning Objectives

Students will:

- compare and contrast the physical features, diet, reproduction, and habitat of five species of sea turtles.
- explain why oil poses a threat to sea turtle populations
- discuss the pros and cons of turtle nest relocation

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions
- Information organization
- Multimedia instruction
- Reading
- Research

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration
- Critical Thinking Skills
 - Analyzing
 - Applying

- Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Organizing Geographic Information

National Standards, Principles, and Practices

NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- Theme 3:

People, Places, and Environments

NATIONAL GEOGRAPHY STANDARDS

- Standard 14:

How human actions modify the physical environment

NATIONAL SCIENCE EDUCATION STANDARDS

- (5-8) Standard C-4:

Populations and ecosystems

- (5-8) Standard C-5:

Diversity and adaptations of organisms

OCEAN LITERACY ESSENTIAL PRINCIPLES AND FUNDAMENTAL CONCEPTS

- Principle 6e:

Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (such as point source, non-point source, and noise pollution) and physical modifications (such as changes to beaches, shores and rivers). In addition, humans have removed most of the large vertebrates from the ocean.

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Paper
- Pencils
- Pens

REQUIRED TECHNOLOGY

- Internet Access: Optional
- Tech Setup: 1 computer per classroom, Projector, Speakers
- Plug-Ins: Flash

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction
- Small-group instruction

BACKGROUND & VOCABULARY

Background Information

Seven species of sea turtles inhabit the world ocean. These ocean-dwelling reptiles breathe air and lay eggs. They are vulnerable to oil pollution and other human-induced factors when they surface to breathe or go to shore to nest. Oil slicks on the surface of the ocean make it difficult for adult turtles to surface to breathe. Young sea turtles get trapped in oil when they surface and are unable to descend back into the water column. After the 2010 *Deepwater Horizon* oil spill, sea turtle nests were relocated before baby turtles hatched to avoid contamination and the potential trapping hazards posed by oil.

Prior Knowledge

Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
Atlantic Ocean	<i>noun</i>	one of Earth's four oceans, separating Europe and Africa from North and South America.
beach	<i>noun</i>	narrow strip of land that lies along a body of water.
current	<i>noun</i>	steady, predictable flow of fluid within a larger body of that fluid.
diet	<i>noun</i>	foods eaten by a specific group of people or other organisms.
habitat	<i>noun</i>	environment where an organism lives throughout the year or for shorter periods of time.
ocean	<i>noun</i>	large body of salt water that covers most of the Earth.
oil spill	<i>noun</i>	accidental release of petroleum products into a body of water, either by an oil tanker or an offshore oil rig.
sea turtle	<i>noun</i>	one of several endangered species of marine reptile native to tropical and subtropical oceans.
species	<i>noun</i>	group of similar organisms that can reproduce with each other.

For Further Exploration

Articles & Profiles

- [National Geographic News: Gulf Oil Spill Anniversary: Resilience Amid Unknowns](#)

Maps

- [MapMaker](#)

Websites

- [National Geographic News: Oil Spill Hits Gulf Coast Habitats](#)
- [National Geographic Environment: The Ocean](#)
- [National Geographic Animals](#)

FUNDER

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