

RESOURCE LIBRARY
ACTIVITY : 40 MINS

Real-World Uses of Ocean Maps

Students discuss how maps are helpful in real-world scenarios. Then they analyze how maps provide valuable information about the ocean.

GRADES

6 - 8

SUBJECTS

Geography, Physical Geography

CONTENTS

1 PDF

OVERVIEW

Students discuss how maps are helpful in real-world scenarios. Then they analyze how maps provide valuable information about the ocean.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/real-world-uses-ocean-maps/>

DIRECTIONS

1. Have students discuss a real-world scenario in which maps are helpful.

List the following species on the board: leatherback turtle, green sea turtle, loggerhead sea turtle, and megamouth shark. Ask students to think about how maps that show the distribution of each species might be helpful. Ask:

- *How might these maps be helpful for people who want to learn more about each species?*
- *How might the maps as a group be helpful?*
- *What can we learn by looking at all of the maps together?*

- *If the maps were layered on top of one another, what information would that “master map” provide?*

2. Have students work in small groups to analyze other real-world scenarios.

Divide the class into small groups and distribute the worksheet. Assign each group one of the scenarios on the worksheet. Ask groups to discuss their scenarios and to write the information they think would be helpful to see on a map. Rotate around the room to make sure student discussions are on track. Students’ responses should include ideas such as:

- Scenario 1: map the location of shipwrecks and other debris, the distribution of ocean temperatures, and ocean depth
- Scenario 2: map the extent of the last El Niño, the distribution of anchovies, and the areas where fishing was best and worst during the last El Niño
- Scenario 3: map the presence of methane and the level of cloudiness at the ocean surface; map places where hydrothermal vents have already been found
- Scenario 4: map the extent of the oil spill, the locations where affected animals were found, and the locations of fisheries that had to close

3. Have a whole-class discussion about students’ ideas.

Discuss students’ ideas as a class. Then discuss how maps in general can provide valuable information about the ocean. Ask:

- *Under what circumstances is it better to look at a map than to just read information or see numbers in a table or chart?*
- *How might it be helpful to create maps in layers, with some information on one layer and additional information on other layers that can be removed or added?*

Extending the Learning

Have groups imagine what the maps they recommended for their assigned scenarios look like. If possible, give them transparencies so they can draw one type of data on each layer. Then ask them to combine layers in different ways and write sentences describing what each combination of layers shows.

OBJECTIVES

Subjects & Disciplines

Geography

- Physical Geography

Learning Objectives

Students will:

- analyze real-world scenarios in which maps are helpful and how
- explain how maps in general can provide valuable information about the ocean

Teaching Approach

- Learning-for-use

Teaching Methods

- Cooperative learning
- Discussions

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Analyzing
 - Remembering
- Geographic Skills
 - Analyzing Geographic Information

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- **Standard 1:**

How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

- **Standard 3:**

How to analyze the spatial organization of people, places, and environments on Earth's surface

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Blank transparencies
- Dry erase markers
- Pencils
- Pens

REQUIRED TECHNOLOGY

- Internet Access: Optional
- Tech Setup: 1 computer per classroom

PHYSICAL SPACE

- Classroom

GROUPING

- Small-group instruction

BACKGROUND & VOCABULARY

Background Information

Maps can be extremely valuable in helping ocean scientists answer their research questions. Marine maps can provide information about a variety of activities, distributions, and earth and ocean features. Comparing maps with all of these features can reveal valuable information

about the relationship between these variables and the overall geographic area that has been mapped.

Prior Knowledge

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Recommended Prior Activities

- [Ocean Expeditions and Maps](#)
- [Ocean Maps](#)

Vocabulary

Term	Part of Speech	Definition
map	<i>noun</i>	symbolic representation of selected characteristics of a place, usually drawn on a flat surface.
map layer	<i>noun</i>	part of a map representing specific features of a place.

For Further Exploration

Websites

- [NOAA: Ocean](#)

FUNDER



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