

RESOURCE LIBRARY
ACTIVITY : 15 MINS

Ocean Connections

Students brainstorm and display on a map a variety of ways they are connected to the ocean.

GRADES

3 - 8

SUBJECTS

Earth Science, Oceanography, Geography, Human Geography, Physical Geography

CONTENTS

1 Video, 1 Link

OVERVIEW

Students brainstorm and display on a map a variety of ways they are connected to the ocean.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/ocean-connections/>

DIRECTIONS

1. Brainstorm connections to the ocean.

Divide students into groups and provide a large sheet of paper and markers for each. Tell them that they will be brainstorming as a group how they are connected to the ocean. To begin the brainstorm, ask students: *In what ways is the ocean a part of your life?* Encourage groups to be specific; for example, if they suggest fish, ask them to name a specific type of fish. To help students think creatively, ask questions such as the following as part of the brainstorming:

- *What do we eat that comes from the ocean?*

- *What do you use every day that comes from the ocean, or has parts that come from the ocean?*
- *Do you ever go on vacation to the ocean? If so, where?*
- *Think about the physical geography of where you live. What travels to the ocean?*

2. Determine the sources of ocean connections and map them on a world map.

Next, have students categorize items on their brainstorm lists according to where these items originate. Have students underline items that originate in the ocean, and circle items that originate from their home location. While students are doing this, distribute two different colors of sticky notes to each group.

Once groups have finished categorizing, explain that they will next represent these items on the World Physical MapMaker Kit. Using one sticky note color, ask students to write items from their list that they circled—items that come from them or their town. Using the other color, ask students to write items that they underlined—those that come from the ocean. Students should use one sticky note per item. Ask students to place their sticky notes on the map where each of their ocean connections may have originated. For example, a group might list that they eat crab, and also that pollution from their town flows into the ocean. The group should then write "crab" on one colored note and "pollution" on a note of a different color. The group places their "crab" note in a location in the ocean and the "pollution" note where their town is located.

3. Students explore how they affect the ocean.

Using string and tape, have students make connections between locations on the map. Have students tape string to connect sticky notes that originated in the ocean to their location. For sticky notes that originated at their location, students tape one end of the string to their location and the other to a part of the ocean that might be impacted. String sizes will vary based on the distance between each location.

4. Students display and share how they impact the ocean.

Encourage students to step back and look at the whole map to see a clearer picture of how they are all connected to the ocean. Ask for volunteers to share what they get from, and give to, the ocean. Talk with students about how they can positively give to the ocean by learning about it and sharing what they have learned with others. This is important because people protect things that they know and care about.

Modification

If sticky notes are unavailable, use different colored paper and tape it to the map. Students can also write items on the map using different colored markers.

Tip

Laminate the individual sheets of the MapMaker Kit map so you can re-use it for several years.

Extending the Learning

Show students the National Geographic video, "[Why the Ocean Matters.](#)" Ask, *Did anyone think about how the air we breathe connects us to the ocean?* Have students return to their earlier brainstorm paper and add new ideas they have as they watch the video. Students might also consider the role that the ocean plays in the hydrosphere and in weather and climate.

OBJECTIVES

Subjects & Disciplines

Earth Science

- [Oceanography](#)

Geography

- [Human Geography](#)
- [Physical Geography](#)

Learning Objectives

Students will:

- identify what moves from people to the ocean, and from the ocean to people
- consider ways that humans impact the ocean
- recognize that they have a personal connection to the ocean

Teaching Approach

- Learning-for-use

Teaching Methods

- Brainstorming
- Cooperative learning
- Discussions
- Hands-on learning

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Creativity and Innovation
 - Critical Thinking and Problem Solving
- 21st Century Themes
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Creating
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Organizing 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

- **Standard 4:**

The physical and human characteristics of places

OCEAN LITERACY ESSENTIAL PRINCIPLES AND FUNDAMENTAL CONCEPTS

- **Principle 1g:**

The ocean is connected to major lakes, watersheds and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments and pollutants from watersheds to estuaries and to the ocean.

- **Principle 1h:**

Although the ocean is large, it is finite and resources are limited.

- **Principle 6a:**

The ocean affects every human life. It supplies freshwater (most rain comes from the ocean) and nearly all Earth's oxygen. It moderates the Earth's climate, influences our weather, and affects human health.

- **Principle 6b:**

From the ocean we get foods, medicines, and mineral and energy resources. In addition, it provides jobs, supports our nation's economy, serves as a highway for transportation of goods and people, and plays a role in national security.

- **Principle 6c:**

The ocean is a source of inspiration, recreation, rejuvenation and discovery. It is also an important element in the heritage of many cultures.

- **Principle 6d:**

Much of the world's population lives in coastal areas.

- **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.

- **Principle 6f:**

Coastal regions are susceptible to natural hazards (such as tsunamis, hurricanes, cyclones, sea level change, and storm surges).

- **Principle 6g:**

Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Colored markers
- Large sheets of paper
- Pens
- Scissors
- Sticky notes
- String
- Tape

REQUIRED TECHNOLOGY

- Tech Setup: 1 computer per classroom, Printer
- Plug-Ins: Flash

PHYSICAL SPACE

- Classroom

SETUP

Wall or floor space large enough to hang a giant map

GROUPING

- Large-group instruction

OTHER NOTES

Cut pieces of string of varying length before class begins. Print and assemble the map as a class or on your own before class. Use the assembly video provided to help with this process. If you do not have room for the large map, print several table top maps for students to use in small groups.

BACKGROUND & VOCABULARY

Background Information

All people on Earth are directly or indirectly connected to the ocean in a variety of ways, such as the water that flows from our homes to the ocean, the seafood we enjoy, vacations at the beach, fascination with ocean life we see in the media, and even the air we breathe. Humans negatively affect ocean health in a number of ways, including overharvesting of seafood and contamination through ocean debris and other pollution. When students are aware of their connections to the ocean, they may be inspired to care for it.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
environmental impact	<i>noun</i>	incident or activity's total effect on the surrounding environment.
impact	<i>noun</i>	meaning or effect.
natural resource	<i>noun</i>	a material that humans take from the natural environment to survive, to satisfy their needs, or to trade with others.
ocean	<i>noun</i>	large body of salt water that covers most of the Earth.
originate	<i>verb</i>	to begin or start.
resource	<i>noun</i>	available supply of materials, goods, or services. Resources can be natural or human.

For Further Exploration

Websites

- [National Geographic: The Ocean](#)

FUNDER

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