COMMON CORE
Lessons & Activities

OCEANS

Reading for Information
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& More!

REPRODUCIBLE

Common Core Lessons & Activities:
Oceans

By Carole Marsh
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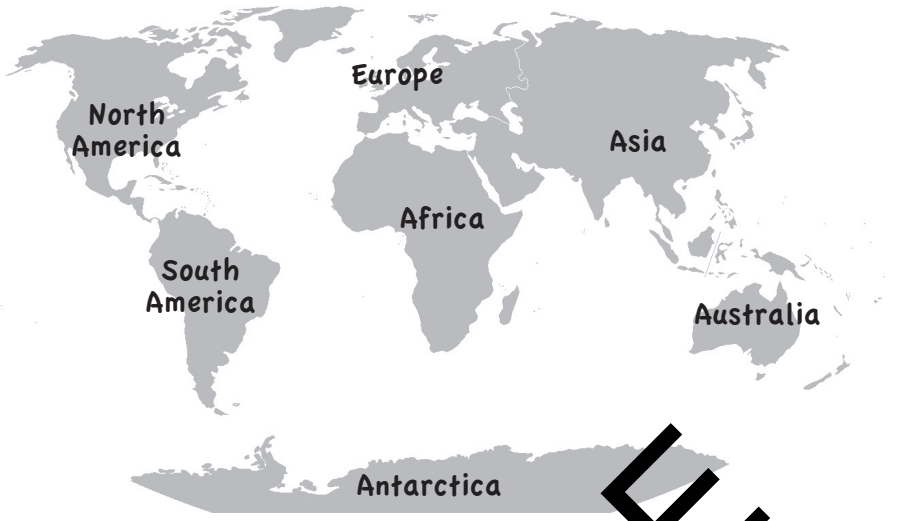
G: Includes Graphic Organizer
GO: Graphic Organizer is also available 8½" x 11" online download at www.gallopade.com/client/go
(numbers above correspond to the graphic organizer numbers online)

Oceans Around the World

Review the chart and the map and answer the questions.

OCEAN NAME	APPROXIMATE SIZE	LOCATION	APPROXIMATE AVERAGE DEPTH	APPROXIMATE % OF EARTH'S OCEAN WATER
Pacific Ocean	63,800,000 square miles	Bordered by the Antarctic to the south, the Arctic to the north, the Americas to the east and Asia and Australia to the west	14,000 feet	45%
Atlantic Ocean	31,830,000 square miles	Separates Europe and Africa from North and South America	10,925 feet	24%
Indian Ocean	28,360,000 square miles	Lies below India, and between Australia and Africa	12,990 feet	20%
Southern Ocean	7,800,000 square miles	Surrounds Antarctica and connects the southern portions of the Indian, Atlantic, and Pacific oceans	14,500 feet	6%
Arctic Ocean	5,440,000 square miles	Surrounding the North Pole and almost enclosed by Europe, Asia, Greenland, and North America	3,240 feet	5%



1. Label each of the five oceans. (Note: the Pacific Ocean is divided in half on this map, so label it twice)
2. Color the largest ocean blue and the smallest ocean yellow.
3. Draw wavy lines in the ocean with the highest average depth.
4. Draw dashed lines in the ocean that separates the U.S. and Europe.
5. Draw diagonal lines in the ocean that contains 20% of the Earth's ocean water.
6. Cite details from the map to support the statement, "The Earth is covered by one 'World Ocean'."
7. Make inferences from the map to identify which two of the following statements correctly define ocean. Put a checkmark next to your two choices.

   ____ A large area of water surrounded completely by land.

   ____ The whole body of salt water that covers nearly three-fourths of the world's surface.

   ____ Any of the large bodies of water into which the world ocean is divided.

   ____ Any body of water surrounded by land on three sides

Life Near the Vents

Read the text and answer the questions.

Exploration Log, June 13

Today our submarine team continued explorations along the mountains of the Mid-ocean Ridge. We were excited to finally see the hydrothermal vents we heard existed near the ridge.

These vents looked like underwater geysers. They occur when water flows into cracks in the ocean floor and is heated by the magma found below the surface. When the water heats up, it rises and shoots back up into the ocean through the hydrothermal vent.

The vents were an oasis of warmth and life in a cold, dark, underwater world. Each vent was like a small ecosystem all to itself.

The warm water spewing from the vents is rich in nutrients. I could not see them, but microscopic bacteria around the vents were surely busy in the process of chemosynthesis. Much like plants use photosynthesis to create food from sunlight, these bacteria use chemosynthesis to create food from the chemicals found in the vents.

I noticed a large cluster of giant tubeworms, which eat the bacteria, crowded around the vent. Small shrimp and crabs were feeding on the tubeworms. I saw larger clams and crabs that feed on the shrimp as well. Truly, seeing life in such a harsh environment reminded me that nature can do incredible things!

1. A. What can you infer about the author of this exploration log?
   B. Is this text: formal *or* informal; concise *or* detailed? Explain.
2. What are hydrothermal vents? Where are they found?
3. Summarize the process that forms hydrothermal vents.
4. A. Use a dictionary to define ecosystem.
   B. Why does the author call the vent an "ecosystem all to itself"?
   C. What evidence does the author provide to support that claim?
5. A. Why is the hydrothermal vent described as an "oasis" of life?
   B. What literary devices does the author use to describe the vents?

Jacques Cousteau: Ocean Explorer

Read the texts, complete the chart, and answer the questions.

Jacques Cousteau is one of the most famous oceanographers (scientists who study the ocean) of all time. He traveled the world on his marine research vessel, the *Calypso*, making more than 80 expeditions. He wrote more than 50 books and produced over 60 films based on his research and explorations of the world's oceans.

Cousteau began studying the ocean in the late 1930s and early 1940s. Eager to explore uncharted depths, Cousteau invented diving equipment and other underwater tools that helped scientists study the ocean in ways that had never been possible before. In 1943, Cousteau and Emile Gagnan developed the first aqualung, which allowed divers to breathe longer and swim more freely than other methods at the time. Cousteau also developed underwater cameras and filming techniques that helped advance oceanography.

Jacques Cousteau Quotations:	The message or moral of the quote:
"Water and air, the two most essential fluids on which all life depends, have become global garbage cans."	
"We forget that the water cycle and the life cycle are one."	

1. Use the text to make 3-5 inferences about Jacques Cousteau.
2. What can you infer about the obstacles to ocean exploration faced by Cousteau and other early oceanographers?
3. Identify at least two lasting contributions that Jacques Cousteau made to oceanography.
4. Identify a common theme between the quotations.
5. What do you think Jacques Cousteau meant in the second quotation when he said the water cycle and the life cycle are one? Write a short argumentative essay expanding upon this point and support your argument with research and logical reasoning.