

Comprehension

Genre

A **Nonfiction Article** gives information about real people, places, or things.




Evaluate

Fact and Opinion

A fact is something that can be proved to be true. An opinion is a belief that does not have to be supported by facts.

Exploring the Undersea Territory

Why are scientists devoting their lives to learning about the least explored territory on Earth—the ocean?



Off the coast of Hawaii in 2000, Sylvia Earle pilots a one-person submarine designed by a company she helped found.

Fifteenth- and sixteenth-century European explorers arrived in North America after dangerous ocean voyages. Today we are in another **period** of ocean-based exploration. Now the focus is on exploring the worlds found under the water. Explorers of the past and the present have a lot in common. However, modern explorers have **vessels** equipped with technologies that sea captains of the past could never have imagined.

SYLVIA EARLE: “HER DEEPNESS”

Many things set Sylvia Earle apart from the great explorers of the past and the present. In 1979 she set the record for the deepest ocean dive—1,250 feet—ever made by a human alone and untethered—not connected in any way to a vessel or other object. That feat earned her the title “Her Deepness.” In 1985 she set another record for diving solo. This time she dove to 3,000 feet in a submersible—a “compact” version of a submarine—she helped design.

Over the course of Earle’s career of more than fifty years, she spent more than 6,000 hours under water. She held the positions of Explorer-in-Residence at the National Geographic Society and Chief Scientist at the National Oceanic and Atmospheric Administration (NOAA)—the first woman ever to hold that post. She co-founded and served as chief executive of a company that designs diving equipment. Add to this list the titles of mother and grandmother.

According to Earle, “This is the Lewis and Clark era for oceans.” She was referring to the historic 1805 expedition to explore the huge and largely unknown area of the U.S. known as the Louisiana Purchase. Lewis and Clark mapped and documented the new territory.



Sylvia Earle at Woods Hole, Massachusetts, in 1995

“The ocean is the cornerstone of all life,” Earle pointed out. “It produces most of the oxygen in the atmosphere. It shapes climate and weather. If the sea is sick, we will feel it. If it dies, we die.” She based her work on her belief that ignorance is the greatest threat of all to this resource that is so **valuable** to life on Earth. “We know more about Mars than we know about the oceans,” she has said. This scientist who is also an explorer, a businesswoman, and a grandmother has dedicated her life to both exploring and protecting the oceans of the world.

ROBERT BALLARD: EXPLORING “SHIPWRECK ALLEY”

Robert Ballard is best known as the explorer who located the wreck of the luxury steamship *Titanic*. Like Sylvia Earle, he is a National Geographic Society Explorer-in-Residence. As Director of the Institute for Exploration (IFE), Ballard continues to dedicate his work to revealing the mysteries of the world’s oceans. He and his team locate and study ancient shipwrecks in an effort to understand early human history.

Ballard’s team is studying wrecks like this one (left) in Lake Huron. It is the freighter *Montana*, shown below in 1872.



Ballard and his team don't always have to travel to distant oceans to find interesting old shipwrecks. In fact they don't have to go any further than Lake Huron, one of the Great Lakes. There, within the Thunder Bay National Marine Sanctuary and Underwater Preserve, is an area known as "Shipwreck Alley." It is **estimated** that more than 100 shipwrecks dating back to the 1800s sit on the bottom of the lake. Ballard believes that finding and **documenting** them will tell an important story about trade and shipbuilding in North America.

Using a submersible called *Little Hercules*, the IFE team has identified a number of well-preserved wrecks. One is the *Cornelia B. Windiate*, which sank on November 28, 1875. It went down with all crew members and 332 tons of wheat. Cameras have photographed the ship's three wooden masts, still standing tall; its anchors, deck, and rigging; and its name, carved into the hull.

As their work in "Shipwreck Alley" continues, Ballard and his team expect to increase awareness of one aspect of U.S. history.



A sonogram—a picture made with sound waves—shows the *Cornelia B. Windiate* on the floor of Lake Huron.



Robert Ballard carries a salvaged artifact.

Think and Compare

1. How did Sylvia Earle earn the nickname "Her Deepness"?
2. Why does Robert Ballard want to investigate the shipwrecks in Lake Huron?
3. What facts does Sylvia Earle use to support her opinion that it is important to understand and protect the world's oceans?
4. Based on these selections, what generalization can you make about explorers both past and present?



Test Strategy

On My Own

The answer is not in the selection. Form an opinion about what you read for questions 4 and 5.

LORDS OF THE SEAS

Nearly 500 years before Christopher Columbus, bold Viking sailors crossed the Atlantic Ocean. Vikings were the first Europeans to reach North America. They lived in a part of Northern Europe called Scandinavia. Most Vikings were peaceful farmers, traders, and gifted craftsmen. But they were also excellent shipbuilders.

Viking ships were brilliantly designed. They were tough enough to sail hundreds of miles on the open sea. They were light enough to be carried over land. When there was no wind, the crews could row the ships with oars.

Vikings traveled far in search of goods such as silk, glass, and silver. Some Vikings sailed west and settled the islands of Iceland and Greenland. Between 997 and 1003 A.D., a Viking named Leif Eriksson landed in what is now Canada. The Vikings probably stayed for less than ten years, though they traded with Native Americans for much longer. A bit of their culture can still be found on our calendar. Tuesday, Wednesday, Thursday, and Friday are named for Viking gods!



Viking ship from 850-900 A.D. on display in the Viking Ship Museum, Oslo, Norway



A tenth-century Viking helmet

Directions: Answer the questions.

1. Where did the Vikings originally live?

- A Canada
- B Scandinavia
- C Iceland and Greenland
- D the Atlantic coast

2. According to the selection, which of these was a feature of Viking ships?

- A They were large enough to hold many people.
- B They were light enough to be carried over land.
- C They had very colorful sails.
- D They were made from rare and expensive wood.

3. Which of these answers shows the cultural influence of the Vikings?

- A Some days of the week have Viking names.
- B Vikings left ships in North America.
- C Vikings were gifted craftsmen.
- D Americans adopted Viking ship designs.

4. Vikings were superb shipbuilders. What made their ships so good? Use the picture and the text to support your response.

5. People have explored new lands and the oceans. Should we continue to explore space and the skies beyond Earth? Why or why not?

Tip
Form an opinion.



Write to a Prompt

In the selection “Exploring the Undersea Territory” you read about two modern-day explorers. How did their personal qualities, interests, and skills help them become undersea explorers? Write your response in three or more paragraphs, and use details from the article.

Being a Deep-Sea Explorer

People who do what Sylvia Earle and Robert Ballard do have to like danger, like to travel, and like to study. It’s hard to think of a more dangerous job than getting into a little submarine alone and diving to the bottom of the ocean. Any kind of problem could mean death.

Earle and Ballard are both scientists. They went to college and studied hard in order to be able to do the work they do. Earle is actually a botanist—a scientist who studies plants. But the plants she studies grow underwater. Ballard is a marine geologist and geophysicist. That is a scientist who studies the structure of oceans. To be any kind of scientist takes a person who can focus on details.

Explorers like Earle and Ballard use science to help others. That’s the quality I admire most.



I used details to explain my ideas.

Writing Prompt

Sylvia Earle and Robert Ballard are both explorers. Explain how their interest in the sea has made a difference in their lives and in ours. Write three paragraphs, and use details from the article in your answer.



Writer's Checklist

- Ask yourself, who is my audience?
- What is the purpose for writing?
- Plan your writing before beginning.
- Use details to support your main idea.
- Be sure your ideas are clear and organized.
- Use your best spelling, grammar, and punctuation.