Sylvia Earle: Exploring the Deep Frontier / Blue World

Bring Students Grades 3-8 on a Learning Adventure!

For the complete special collections with media resources, visit: http://nationalgeographic.org/media/exploring-deep-frontier-blue-world/

Drawing on more than 100 expeditions and 7,000 hours underwater, Dr. Sylvia Earle will take students on an amazing voyage of discovery beneath the waves. Along the way, she’ll reveal new technologies that will power the next great age of underwater exploration. Known as “Her Deepness” for her record-breaking accomplishments beneath the ocean’s surface, Dr. Sylvia Earle has been named a “living legend” by the Library of Congress and the first “Hero for the Planet” by Time.

Use the resources in this collection to prepare your students for their upcoming National Geographic Live student matinee experience. Use the ideas before the show to introduce students to Sylvia Earle and the topics (ocean exploration, marine biology, conservation) that she will discuss during the show. Use the ideas after the show to extend the learning.

Before the Show

- Have students review Sylvia Earle’s biography using the links in the Explore More tab on this page.
- Download and print the provided map or use the MapMaker Interactive to
explore the area in which Sylvia Earle's work takes place.

- Watch the video *Ocean Exploration: Technology*. As students watch, have them record all the different technology they see. After the video, discuss the uses of the different technologies. Ask: *Why is different technology used to explore different depths of the ocean?*

- Have students read the conservation encyclopedic entry. Lead a class discussion about conserving resources.

- Provide each student with a **KWL Chart**. Introduce the program they will attend, who the speaker is, and a brief description of what the speaker's topic(s) will be. Have students fill out the What I Know and What I Want to Know columns of the KWL Chart. Have them fill out the What I Learned column after the show.

- Use the **graphic organizer collection** to select a graphic organizer to help your students organize their questions and new knowledge before, during, and after the program. For example:
  - Download and print the **T Chart**. Have students label the left column with Questions I Have and the right column with Answers and then conduct research about the speaker and speaker topic ahead of the program. Have students record answers to their questions during or after the program. Have students conduct research to complete any unanswered questions for homework.
  - Download and print the provided **Five Ws Chart**. Have each student bring their copy to the matinee program and take notes.

**After the Show**

- Use the Explorer Comparisons worksheet and have a class discussion to help students make connections between themselves and Sylvia Earle. Distribute the worksheet to students before the presentation and review the directions with them. Review any terms that they are unfamiliar with. After the presentation, have students share the notes that they took during the show. Have a class discussion about attitudes and skills and how students demonstrate them in
their everyday lives. Have students record their personal examples on the worksheet.

- Review the continents, countries, or areas that the speaker presented. Ask: *What continents, countries, or areas does the speaker work in?* Have younger students imagine that these places were characters in the stories that Sylvia Earle shared. Ask: *What role did place play in Sylvia Earle’s story? Why was location important to the story? How did the characteristics of the place influence the story?*

- Discuss and define any unfamiliar terminology that the speaker used. Ask: *What vocabulary words did Sylvia Earle use that were new to you?* Invite volunteers to write the words on the board, and have the class define them as a group using information they learned from the speaker or through research. If desired, have students record unfamiliar terminology during the show on one half of a T Chart. Then, have them write the definitions on the other side following this class discussion.

- Have a class discussion about the attitudes National Geographic explorers embody. Ask: *What attitudes did Sylvia Earle talk about today? In what ways does Sylvia Earle demonstrate curiosity, responsibility, empowerment, and persistence in her work? Why do you think these attitudes are important for explorers?* Students can use their Five Ws Chart for reference and a graphic organizer to organize their ideas.

- Have a whole-class brainstorm on how students can make changes or support the speaker’s work. Ask: *What, if any, call to action did the speaker ask you to make? How can you implement any changes in your day-to-day life? What can we work on together as a group?*

### Vocabulary

<table>
<thead>
<tr>
<th>Term</th>
<th>Part of Speech</th>
<th>Definition</th>
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<tbody>
<tr>
<td>conservation</td>
<td>noun</td>
<td>management of a natural resource to prevent exploitation, destruction, or neglect.</td>
</tr>
<tr>
<td>Term</td>
<td>Part of Speech</td>
<td>Definition</td>
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<tr>
<td>ecosystem</td>
<td>noun</td>
<td>community and interactions of living and nonliving things in an area.</td>
</tr>
<tr>
<td>exploration</td>
<td>noun</td>
<td>study and investigation of unknown places, concepts, or issues.</td>
</tr>
<tr>
<td>marine biology</td>
<td>noun</td>
<td>study of life in the ocean.</td>
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<tr>
<td>ROV</td>
<td>noun</td>
<td>remotely operated vehicle.</td>
</tr>
<tr>
<td>scuba</td>
<td>adjective</td>
<td>(self-contained underwater breathing apparatus) portable device for breathing underwater.</td>
</tr>
<tr>
<td>technology</td>
<td>noun</td>
<td>the science of using tools and complex machines to make human life easier or more profitable.</td>
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**Articles & Profiles**
- National Geographic Explorers: Sylvia Earle, Oceanographer
- Sylvia Earle: Into the Unknown
- Interview with Sylvia Earle

**Books**
- National Geographic Readers: Ocean Animal Collection
- Mission: Sea Turtle Rescue

**Video**
- Sylvia Earle, Oceanographer
- Mission Blue Trailer

**Websites**
- What Can I Do?
- Your Ocean Activity
- Mission Blue-Sylvia Earle Alliance

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