



Ocean Advocacy: How Can Youth Be Ocean Heroes?

TEACHER'S GUIDE

Grades: 6-8

Subjects: Science and Marine Sciences

Purpose:

This guide provides activities for students to explore marine sciences and ocean advocacy by researching a marine animal species and investigating ways in which they can act within their community to support ocean conservation.

Essential Question: How can we empower youth to be involved in climate justice initiatives?

Supporting Questions:

1. How are frontline communities affected by climate change?
2. How are marine animals important within their habitats?

Time Frame: These activities can be completed in three (3) 50-minute sessions.

Focus Topics: Oceans, Marine ecosystems, Climate justice

Description:

The health of the world's oceans is suffering, and this has affected some communities more than others. Coastal communities, and those who are less-advantaged because they have less access to resources and face increased societal oppression, are more at risk from rising sea levels and storms. In response to these environmental concerns, youth-led organizations have taken action to help raise awareness, educate, and create initiatives to inform their communities about climate change and what we can all do to help. In this teacher's guide, students will learn firsthand about the difficulties faced by frontline communities while discovering ways in which they can support youth-focused climate change initiatives.

Objectives:

In this lesson, students will:

1. Research a marine animal species of choice.
2. Present to their peers to raise awareness about their species.
3. Illustrate their animal and provide details about their physiology.
4. Discover youth-focused ocean advocacy initiatives to learn how they can be involved in protecting our oceans.



Standards:

Next Generation Science Standards:

Middle School

Disciplinary Core Ideas:

- LS2.A: Interdependent Relationships in Ecosystems
- LS2.C: Ecosystem Dynamics, Functioning, and Resilience
- ESS3.C: Human Impacts on Earth Systems
- ESS3.D: Global Climate Change
- ETS1.B: Developing Possible Solutions

Crosscutting Concepts:

- Cause and Effect
- Stability and Change

Science and Engineering Practices:

- Analyzing and interpreting data
- Constructing explanations and designing solutions
- Engaging in argument from evidence

Common Core Standards:

Grades 6-8

- CCSS.ELA-Literacy.RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.
- CCSS.ELA-Literacy.RST.6-8.3 Follow precisely a multi-step procedure when carrying out experiments, taking measurements, or performing technical tasks.
- CCSS.ELA-Literacy.SL.8. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation



Vocabulary:

1. **Climate justice:** The just division, fair sharing, and equitable distribution of the benefits and burdens of climate change and responsibilities to deal with climate change.
2. **Frontline communities:** Those who are or are expected to experience the “first and worst” consequences of climate change.

Materials

For Teachers:

- Computer or laptop
- Projector or Screen Casting Capability
- Chart paper

Digital Resources:

- [Virtual Field Trip - Ocean Heroes: Coastal Frontline Communities and Climate Justice](#)
- [Marine Life Encyclopedia \(Oceana\)](#)
- [Marine Life \(Marine Bio\)](#)
- [Fun Facts about Sea Life \(NOAA\)](#)
- [Find a Species \(NOAA\)](#)

For Students:

- Notebook paper or journal
- Pencil or pen
- Blank Copy Paper
- Coloring pencils
- Poster board
- Markers
- Glue
- Decorations for their poster



Overview of Lessons:

Lesson 1:

Activity 1: Virtual Field Trip and discussion questions

Students will watch the virtual field trip and answer discussion questions related to the video.

Activity 2: Marine animal research

Students will research a marine animal of choice and take notes to create a poster on their animal.

Lesson 2

Activity 1: Marine animal poster project

Students will use their research to create a poster to present their animal to their class. Student posters can be displayed in the classroom or hallway to share this information with their peers.

Lesson 3

Activity 1: Student presentations

Students can present their animal poster to the class. The presentation focus should be on how to raise awareness about their species of choice and how to protect them.

Activity 2: Youth Advocacy Activity – What can students do to help our oceans?

Students will be given options of different opportunities to discover how they can support ocean advocacy initiatives. The goal of this activity is to raise student awareness about youth advocacy initiatives and develop their research skills in this topic.



Lesson Plan & Activities:

Lesson 1

Activity 1: Virtual Field Trip and discussion questions

1. As your students are watching the [Virtual Field Trip - Ocean Heroes: Coastal Frontline Communities and Climate Justice](#), you may pause to answer the following questions throughout the discussion, or have students complete these questions as a reflection and check for understanding after the video.

Discussion questions:

1. What is climate justice?
 - A. The equitable distribution of the benefits and burdens of climate change and responsibilities to deal with climate change.
2. What is a frontline community?
 - A. Those who are or are expected to experience the “first and worst” consequences of climate change.
3. Why are frontline communities in the state of Florida more vulnerable to climate change?
 - A. Florida is a low-lying state, which means it is at a low elevation and vulnerable to even small changes in sea level rise.
4. What were a few examples of communities that are at risk due to climate change?
 - A. Some examples are - rural populations, senior citizens, non-native English speakers, unhoused people, youth, people of color, and other marginalized communities.
5. What percentage of people that receive STEM degrees identify as being black, indigenous, people of color (BIPOC)?
 - A. About 24%
6. What was one way that the youth members from Big, Blue & You were supporting an environmental initiative?
 - A. They created artistic postcards and mailed them to lawmakers to raise awareness about an act about breaking free from plastic pollution.
7. What are some ways that we can do to protect natural spaces in our communities?
 - A. Stop using single use plastic items, use refillable water bottles, use reusable bags for shopping, and use your voice or make something to express yourself.



Activity 2: Marine animal research

1. Tell students that similar to how the youth members from Big Blue & You created postcards to raise awareness to lawmakers, we are going to be creating a poster based on research about a marine animal.
2. Explain to the class that they will be creating their own poster based on a marine animal of choice. Students can first research different marine animals and speak with their teacher about their choice.
3. Tell students that their poster will require the following sections:
 - A. The marine animal of choice**
 - B. Descriptive information about the animal such as:**
 - What are its physical characteristics?
 - Is the animal endangered?
 - What threats are harming this animal and their populations?
 - What is being done to protect this animal currently?
 - Why is this animal important to its marine ecosystem?
 - What are a few (2-3) fun facts about the animal?
 - C. A picture of the animal in the middle of the poster, which they can draw.**
 - D. Any decorations or colors to showcase the animal's habitat in the poster.**
4. Once students have picked their marine animal, they can begin conducting research. Inform students to take notes about their research related to the requirements of the poster project. Student research should continue for this second part of the class period. Teachers can share the following links to help start student research.

Research links:

1. [Marine Life Encyclopedia \(Oceana\)](#)
2. [Marine Life \(Marine Bio\)](#)
3. [Fun Facts about Sea Life \(NOAA\)](#)
4. [Find a Species \(NOAA\)](#)

Lesson 2

Activity 1: Marine animal research and art project

1. As a review, ask students to share a fact about the virtual field trip with a classmate to begin class.
2. Tell students that today they will be finishing their research and creating their marine animal poster.



3. Give students a portion of class time complete their research (up to 15 minutes) and once they have collected their facts, they should begin to create their poster. Guide students on different options for a visually appealing poster presentations as needed. They can also brainstorm their layout with a classmate.
4. Students will then create their poster by completing the following:
 - Drawing their animal.
 - Adding labels to their animal with physical characteristics.
 - Printing out or writing their research information on the poster board.
 - Decorating their poster to showcase the animal's marine habitat.
5. Students will use the class period to create and design their poster. If students finish early, they may practice their presentation with a partner.

Lesson 3

Activity 1: Student presentations

1. To begin class, give students a few minutes to practice their presentation with a classmate.
2. Afterward, begin student presentations. Students should fully explain their marine animal to the class and describe why their marine animal is important in supporting marine ecosystems.

Activity 2: Youth advocacy activity: What can students do to help our oceans?

1. After students complete their presentations, they will have the opportunity to research ways to get involved with ocean advocacy.
2. Explain to students that now that they have brought awareness to their class about a marine animal, now they will learn about opportunities of how to get involved in advocating for our oceans.
3. Give students an overview of the different methods in which they can get involved. Students can pick their own topic and explain why they would like to advocate for the ocean in this way.
4. Display to the class the following youth advocacy options:
 - A. **Ocean Clean ups:** If you'd like to get involved by helping clean up the ocean, use the following resource to start your research - [Find a Clean Up Near You \(Ocean Conservancy\)](#). If students do not live near the ocean, they can still explain why they would like to participate in an ocean clean up and how this would help frontline communities.

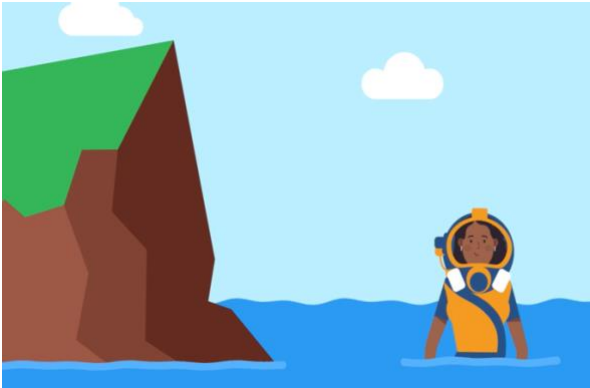


- B. Write to your representative:** You can get involved by writing to your state's representative on why ocean conservation is important for our environment. You can use your marine animal project as a starting point to explain why these animals are important for the environment.

- C. School Recycling:** Another way to help our oceans is by raising awareness about plastic pollution and recycling. Students can create a presentation for their peers about recycling to inform the school on how to properly recycle.



Nature Lab Related Resources: The following lesson plans and videos can be used to supplement this teaching guide. **Student will learn about coastal resilience practices, how we can secure clean water for all, and the mutualistic benefits of coral reefs!**



Protecting our Oceans and Ourselves: Coastal Resilience and Restorative Aquaculture

Grade Levels: 8-12

More people rely on our ocean for food, energy, transport, recreation, and other natural resources than any other time in history. Effective efforts to protect our oceans so that we can continue to rely on them include coastal resilience improvement efforts such as coral reef and mangrove restoration, and restorative aquaculture, which supports seafood sustainability and healthy coastal ecosystems.

<https://www.nature.org/en-us/about-us/who-we-are/how-we-work/youth-engagement/nature-lab/virtual-field-trips/>



Gray, Green, Blue: Water Security and YOU!

Grade level: 9-12

People, businesses and industries, recreation, waste removal, transport, nature and even lawn care all require water. Making sure there's enough reliable, clean water for the health and livelihoods of people and natural environments is what we mean by water security, and it is one of the biggest challenges we face.

<https://www.nature.org/en-us/about-us/who-we-are/how-we-work/youth-engagement/nature-lab/high-school-lesson-plans/>



Coral Reefs: Feeding and Protecting Us

Grade levels: 6-8

From the remote Pacific island nation of Palau comes a video lesson in mutualism, both among coral reef organisms and between people and the coral reefs that define their nation. Explore with your students how science and people can help maintain the healthy coral that provides food, livelihood, and medicine.

https://www.nature.org/en-us/about-us/who-we-are/how-we-work/youth-engagement/nature-lab/middle-school-lesson-plans/?tab_q=tab_container_copy-tab_element