

# Water Shapes Our Planet and Our Lives

## *Final Activity: Taking Action*

### Educator Guide

**Guiding question: *What is climate change and how is it affecting animals and their habitats?***

#### **1. Goals**

The goals of this final activity are to provide students with an opportunity to: 1) take action by communicating what they learned in the previous six lessons, 2) conduct a simple research project, 3) use creativity in science communication, and 4) demonstrate climate literacy.

#### **2. Objectives**

- Students will increase their understanding of climate change and its impacts;
- Students will learn to communicate and inform others about climate change;
- Students will learn to successfully address a specific audience;
- Students will demonstrate creativity with their communication style; and
- Students will learn that climate change affects animals and habitats and may begin to propose solutions.

#### **3. Brief background**

Over the past century, average surface temperatures on Earth have risen at an increasing rate and this trend is expected to continue. Certain gases, like carbon dioxide and methane - often referred to as “greenhouse gases” - trap heat from the sun inside Earth’s atmosphere. This natural process helps regulate Earth’s climate. However, demands from Earth’s growing human population have caused excess amounts of greenhouse gases to enter the atmosphere, in turn trapping more heat and causing Earth’s surface temperatures to rise. Some examples of greenhouse gas contributions include burning fossil fuels (i.e. coal) to generate power, which contributes carbon dioxide, as well as the release of methane from landfills, livestock operations, and thawing permafrost in Greenland. As Earth’s temperatures increase, climate change occurs. Sea levels rise as the ocean warms and expands and land ice melts. Environmental events, like droughts, hurricanes, floods, and heat waves become more frequent and intense. Humans face an opportunity to discover and implement solutions to this global challenge. However, before one can identify solutions, one must first understand the issue and what actions contribute to it. This final activity will help children learn how to communicate about climate change, reduce their impact on the environment, and prevent climate change in the future.

#### **4. Overview**

Climate literacy is understanding one's influence on climate, as well as the influence of climate on oneself and society. NOAA describes someone who is “climate literate” as one who understands the essential principles of Earth's climate systems, communicates about climate and climate change in a meaningful way, and makes informed decisions with regards to actions that may affect climate.

Students have completed six lessons related to water, weather, and climate. This final activity will guide students in connecting and communicating what they learned through a final project

investigating the effects of climate change on an animal of their choosing. The project will allow for creativity as students further their understanding of climate change and its causes, impacts, and solutions. The series will come full-circle as they carry out their research, interpret information, deliver knowledge, and begin to explore solutions.

## 5. Outline

- Brief 5-question review of previous lessons (*answers embedded in lesson*)
- Brief introduction to climate literacy
- Students will review an article addressing threats faced by two different populations of rhinos (*link provided in lesson*). [This portion can be carried out as a class with a review of the full article, or students can simply review the short abstract on their own to encourage critical thinking.]
- Final project- Each student will select an animal and conduct research on how climate change is affecting that species (currently or in the future)
- Students will select from a variety of options to present what they learned and share with their classmates via Google Meet or other platform

## 6. Communication strategies to discuss with your students

- ❖ **What are you going to talk about?** Decide on a few key points you want to share that you feel are most important about your topic.
- ❖ **Who are you talking to?** Consider who your audience will be. It is important to know your audience because people communicate and learn in different ways.
- ❖ **What technique will you use to communicate?** Consider the best way to get the attention of your audience. Also, consider your own personal talents and skills.
- ❖ **What is your plan?** Create a plan to complete your project. Write an outline, rough draft, or sketch, and gather any supplies you will need.

## 7. Resources

- [What threatens rhinos besides poachers? | Science Journal for Kids and Teens](#)
- [Resources for Educators | GlobalChange.gov](#)
- [Climate Literacy in the Elementary Classroom — Climate Change and the Polar Regions — Beyond Penguins and Polar Bears \(osu.edu\)](#)
- [Home | NASA Climate Kids](#)