

# DROPS OF KNOWLEDGE FOR RIVERS OF CHANGE



GLOBAL TEACHING  
AND LEARNING MATERIAL

A hands-on guide to teaching  
and learning about  
water, sanitation, hygiene,  
and the environment

SWAROVSKI  
WATERSCHOOL

### ACTIVITY 8.3: CLIMATE CHANGE INTERGENERATIONAL SURVEY

Accessing freshwater is essential for life, health, and livelihoods, and understanding the past and present gives us a vision into the future. In the case of climate change, the future is expected to bring more droughts and floods, and rising sea levels, which will make finding clean, nonsaline water more difficult for many people.

In its technical paper on water and climate change, the Intergovernmental Panel on Climate Change predicts with high confidence that “higher water temperatures and changes in extremes, including floods and droughts, are projected to affect water quality and exacerbate many forms of water pollution. ... Changes in water quantity and quality due to climate change are expected to affect food availability, stability, access and utilisation.”<sup>44</sup>

**DID YOU KNOW?** In 2030, 47% of all people in the world will be living in areas of high water stress, and most population growth will take place in areas that already have limited access to safe drinking water and adequate sanitation.

SOURCE: World Water Assessment Programme, “Facts and Figures: Demographics and Consumption Are the Main Pressure on Water,” UNESCO, [www.unesco.org/new/en/natural-sciences/environment/water/wwap/facts-and-figures/all-facts-wwd/3/fact1-demographics-consumption](http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/facts-and-figures/all-facts-wwd/3/fact1-demographics-consumption).

While droughts and flooding affect water quality by damaging sanitation pipes, causing human waste to leak into water supplies, and by increasing the salinity of groundwater, climate change will also have an impact on the world’s forests. Warmer conditions and higher levels of carbon dioxide in the air will cause trees to grow more quickly. However, by growing faster, trees will use the stocks of nutrients in the soil more quickly and may eventually deplete them.<sup>45</sup> With fewer trees, more places will be prone to flooding, causing sedimentation and erosion.

This activity is designed to gather personal knowledge and reflections on climate change from adults, particularly those who are older and have been living in the community for many years.

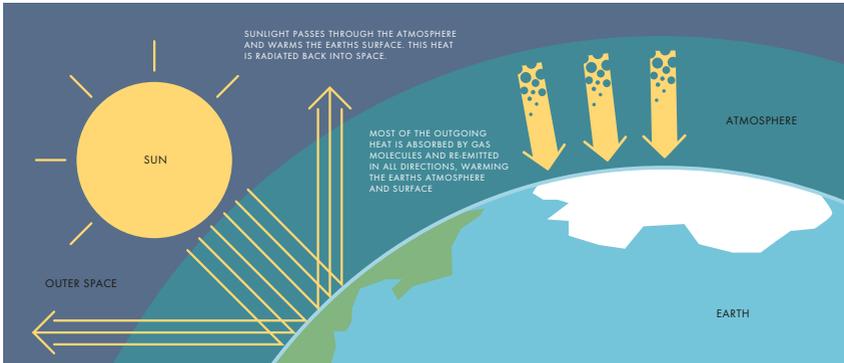
**Time:** 50 minutes introduction (Conducting this survey may span a few days) /

**Thematic Areas:** Social Studies, Language Arts, Science / **Goal for Learning:** Facilitate dialogue between children and elders about the environment in which we live, how it has changed, what this means, and why it matters.

## ACTIVITY 8.3



**Materials:** □ Paper and pencils for drafting the interview worksheet / □ Printouts of the final interview



The greenhouse effect is a phenomenon that occurs when the heat from the sun gets trapped in Earth's lower atmosphere. The heat gets trapped in by gasses such as methane, carbon dioxide, and water vapor, which then makes both the atmosphere and the Earth's surface warmer.

Source: <http://climate.nasa.gov/causes/>

### ACTIVITY STEPS:



- 1 Work with the students to develop an interview form. A draft format is suggested below. Alternatively, you could divide the students into groups of four or five and have them make up their own interview questions, providing guidance on the purpose of the interview.
- 2 Plan for each student to interview an adult in the community and record the responses on a sheet such as the draft shown here. The guidance that is offered by teachers or facilitators should include practical tips on selecting the person to be interviewed, such as a neighbor or family member, and should always consider students' safety.
- 3 After students have completed their interviews, gather the responses for discussion and analysis.

<sup>44</sup> Bates, Bryson, et al., editors, *Climate Change and Water: IPCC Technical Paper IV*, Geneva: Intergovernmental Panel on Climate Change, 2008, p. 3. <sup>45</sup> United Nations Framework Convention on Climate Change, Report on the technical workshop on water and climate change impacts and adaptation strategies <http://unfccc.int/resource/docs/2012/sbsta/eng/04.pdf>.

### ACTIVITY 8.3

CLIMATE CHANGE AFFECTING  
WATER AVAILABILITY



#### OBSERVATION AND DISCUSSION:

How will climate change affect the future? Engage students in a discussion of the short- and long-term effects, and how we can act now to help alleviate some of these changes.

Also consider ways that students can help prepare their community to withstand the effects of climate change.

NASA, "Climate Kids," <http://climatekids.nasa.gov/menu/teach>

ADDITIONAL  
RESOURCES:

Scholastic News Kids Press Corps, "Lesson Plan: How to Conduct an Interview," 2015, [www.scholastic.com/teachers/lesson-plan/how-conduct-interview](http://www.scholastic.com/teachers/lesson-plan/how-conduct-interview)

UNDP, Human Development Report 2014: Sustaining Human Progress – Reducing Vulnerabilities and Building Resilience, New York: United Nations Development Programme, 2014.

#### DRAFT INTERVIEW WORKSHEET

NAME: \_\_\_\_\_ GENDER: \_\_\_\_\_

AGE: \_\_\_\_\_ How long have you lived in this area? \_\_\_\_\_

What was the environment like when you moved here or when you were a child? \_\_\_\_\_

What, if anything, has changed in the natural environment since you have lived here? \_\_\_\_\_

Are there more or fewer people in the village/community now than there were when you came here or when you were a child? Why do you think this is happening? \_\_\_\_\_

### ACTIVITY 8.3



Which of the following items have you noticed during the past 25 years in our region? Please explain or give examples:

- Less water available \_\_\_\_\_
- Higher cost of water \_\_\_\_\_
- Fewer trees \_\_\_\_\_
- Harder to get fuel for cooking and heating \_\_\_\_\_
- Hotter temperatures \_\_\_\_\_
- Changing weather \_\_\_\_\_
- More natural disasters \_\_\_\_\_
- More traffic \_\_\_\_\_
- More pollution \_\_\_\_\_
- More mosquitoes or other insects \_\_\_\_\_
- Less rainfall in certain seasons \_\_\_\_\_
- More people getting sick \_\_\_\_\_
- Harder to grow crops \_\_\_\_\_
- More people moving somewhere else to live \_\_\_\_\_
- Less soil (because it has been washed or blown away) \_\_\_\_\_
- Colder temperatures \_\_\_\_\_
- Other \_\_\_\_\_

ADDITIONAL  
RESOURCES:

Available at: <http://hdr.undp.org/en/reports/global/hdr2006>

UNICEF and the Alliance of Youth CEOs, Climate Change: Take Action Now! Available at: [www.climatecentre.org/news/322/climate-change-take-action-now](http://www.climatecentre.org/news/322/climate-change-take-action-now)