



Yale-New Haven  
Teachers Institute®

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2021 Volume IV: The Earth's Greenhouse and Global Warming

---

## **The Impact of Ocean Acidification on Marine Ecosystems**

Guide for Curriculum Unit 21.04.01  
by Somi Devi Akella

The main ideas behind this unit include (1) to introduce the concept of global warming, how it is caused, and its negative effects on the planet (2) to understand the process of the carbon cycle and trace the movement of carbon between the land, atmosphere, and the bodies of water such as the rivers and the oceans (3) to introduce the phenomenon of ocean acidification and understand how it negatively impacts the plants, animals, and the entire marine ecosystem, and (4) identify the practices that could be set in place to create awareness about how human activities such as the burning of the fossil fuels negatively impact the marine ecosystems. The activities included in this unit will help students understand the concepts thoroughly. This unit can be modified for students at middle-school and elementary-school levels. The content knowledge in this unit couples with the Next Generation Science Standards (NGSS) practices, such as asking questions, conducting research, collecting, analyzing, and interpreting data, finding answers to questions, and designing solutions. The unit thus addresses the New Haven Public School District, the State of Connecticut, and the Next Generation Science Standards (NGSS).

(Developed for Biology, grade 10; recommended for Biology, Environmental Science, Earth Science, and General Science, grades 9-12)

---

<https://teachersinstitute.yale.edu>

©2021 by the Yale-New Haven Teachers Institute, Yale University  
For terms of use visit <https://teachersinstitute.yale.edu/terms>