

Cracking the Ocean Code

Teacher's Guide

Grade Level: 9–12

Curriculum Focus: Life Science

Program Description

Cracking the Ocean Code (56 min.)—Genome pioneer J. Craig Venter takes a globe-circling ocean voyage as he seeks new life-forms and genetic secrets that might help solve the planet's most urgent energy and climate challenges.

Overview

This program helps students discover Charles Darwin's contributions to modern biology. They follow the travels around the world with genome pioneer J. Craig Venter as he studies marine microbes. His mission is to further understand the genetic makeup of our planet's creatures as well as find a solution to our dependence on nonrenewable fossil fuels. The program brings to light some of the most urgent energy and climate changes and helps students visualize the delicately interwoven web of life that exists between humans and the environment.

Classroom Connection

- Have students describe Darwin's theories on evolution and natural selection in their own words.
- Have students form small groups to discuss the findings made by Venter and his team. Ask them to focus on what might this information might mean for our planet. Each group should create a list to present to the class of ways in which the scientific information from *Cracking the Ocean Code* might affect human lives and Earth's future.

Academic Standards

National Academy of Sciences

The National Academy of Sciences provides guidelines for teaching science in grades K–12 to promote scientific literacy. To view the standards, visit this Web site:

<http://books.nap.edu/html/nse/html/overview.html#content>.

This guide addresses the following standards:

- Science in Personal and Social Perspectives: Science and technology in local, national, and global challenges; Natural resources; Environmental quality
- Life Science: Behavior of organisms; Interdependence of organisms; Biological evolution
- History and Nature of Science: Science as a human endeavor; Nature of scientific knowledge

National Council for the Social Studies

The National Council for the Social Studies (NCSS) has developed national standards to provide guidelines for teaching social studies. To view the standards online, go to <http://www.socialstudies.org/standards/strands/>.

This guide addresses the following standards:

- Science, Technology, and Society
- Global Connections
- People, Places, and Environments