

Teacher's Guide for Odyssey: "Can Science Save the World?"

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An introductory activity: Ask students to make individual lists of world problems; you might suggest the following: "Develop your list by thinking 'what's wrong with the world today?'" Ask students to pair up, mesh their lists, and then do some additional brainstorming. Then, using markers, ask students to circle everything on the list that might answer the topic question from this month's issue: "Can Science Save the World?" Discuss their answers along with "Science Scoops" (pages 2-5) as an introductory activity.

For "Combating Climate Change" (pgs. 6-9)

1. Begin by asking students to define the word "green" as it is used as a buzz-word today. Then read aloud the first paragraph on page 6.
2. Ask students to search the article, listing ten environmental problems China faces and ten ideas China has come up with to help solve some of these problems.
3. After discussion on this statement, "So far, American politicians have balked at requiring reductions in carbon dioxide and other greenhouse gas emissions, ask students to respond to the question in the box at the bottom of page 9. (Some may wish to submit their responses to the magazine.)

For "Teens Taking the Challenge" (pgs. 14-18)

1. Ask students to scan the article and select one of the teenagers profiled.
2. Direct students to locate two outside sources of information for the problem that teenager hoped to improve.
3. Assignment: Based on the information from these sources and the magazine article, write an interview in which you "ask" the teenager questions and he or she responds. Note your sources.

For "One Acorn at a Time" (pages 19-21)

1. Ask students to do a little brainstorming and research to come up with a list of infectious diseases that affect today's world population—along with estimates of how many people are affected by each over the course of one year.
2. Read the following and propose the question at the end: "We have found, for instance, that we can predict how many cases of Lyme disease will occur in a particular year based on how many acorns were produced two years earlier. How is this possible?"
3. Ask students to a.) give a numbered step-by-step summary of how this connection occurs after reading pages 20-21, and b.) give definitions and examples of "reservoirs" and "vectors."

For: "Searching for Clean Water" (pages 22-24)

1. Start with the question: "Have you ever been in a situation where you stopped to wonder if your drinking water was safe?" Follow with discussion.
2. Ask students to scan Abigail and Emma's article, looking for all the different methods people in Kenya use to provide themselves with safe drinking water.

For "Biofuels" " (pages 30-32)

Based on the article, ask students (working in groups) to create a campaign for or against funding for ethanol. Each campaign should include a poster, a speech, and a campaign slogan. Groups (who may engage in additional research to bolster their positions) will then present their campaigns to the class.

For "Sowing Better Weather" (pages 34-36)

Provide students with the following study guide:

1. Why are clouds sometimes "tweaked"?
2. What are the two methods of cloud-tweaking?
3. How safe is silver iodide?
4. Who was Charles Mallory Hatfield?
5. What did the three scientists at General Electric Laboratory discover?
6. What kind of treaty did the United Nations pass in 1977?
7. Why did the government stop funding weather modification research?
8. What can rain seeding do and not do?
9. How does the Idaho Power Company use cloud seeding?
10. What does Dr. Hugh Willoughby believe is the answer to using cloud seeding as an answer to drought?

BONUS ACTIVITY

For "Wishing on a Star" (pages 42-43)

1. Ask students to add eight years to their ages and imagine where they'll be and what they'll be doing; then read the last column on page 43 aloud.
2. Ask students to use simple labeled drawings to illustrate the information from pages 42-43, including a description of the three hydrogens, inertial confinement, magnetic confinement, and tokamaks.
3. Finally, ask students to list ways in which their lives would be different in eight years if the vision of the fusion scientists comes to fruition.



