ED 481 192 CS 510 912

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TITLE Champions of the Land. [Lesson Plan].

INSTITUTION Discovery Communications, Inc., Bethesda, MD.

PUB DATE 2002-00-00

NOTE 12p.; Audio and video clips included in the web site version

of this lesson plan are not available from ERIC.

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PUB TYPE Guides - Classroom - Teacher (052) EDRS PRICE EDRS Price MF01/PC01 Plus Postage.

DESCRIPTORS Class Activities; *Conservation (Environment); *Conservation

Education; English Instruction; Language Arts; Lesson Plans;
*Literature Appreciation; *Nonfiction; Secondary Education;

Vocabulary Development; Writing Assignments

ABSTRACT

Based on Rachel Carson's book "Silent Spring" and other conservation-related books, this lesson plan presents activities designed to help students understand that many conservationists have written books that have had a profound influence on the way people think about and treat the planet; such books can be powerful instruments for change; and reading such books and encouraging others to read them are important parts of being an environmentally responsible individual. The main activity of the lesson involves reading conservation-related books and writing a brief essay explaining the effects of their books might have had on science or society and their own personal reactions to what they read. It includes objectives, materials, procedures, adaptations, discussion questions, evaluation methods, extension activities, annotations of suggested readings and web links, vocabulary, and related academic standards and benchmarks addressed in the lesson plan. The lesson plan also contains a description of a video clip related to the lesson, comprehension questions related to the video clip, and answers to those comprehension questions. (RS)





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TITLE OF LESSON PLAN:

Champions of the Land

LENGTH OF LESSON: One class period

GRADE LEVEL: 9-12

SUBJECT AREA: Ecology

CREDIT: Audrey Carangelo, freelance curriculum developer.

OBJECTIVES: Students will understand the following:

- 1. Many conservationists have written books that have had profound influence on the way people think about and treat our planet.
- 2. Such books can be powerful instruments for change in people's opinions and practices.
- 3. Reading such books and encouraging others to read them are important parts of being an environmentally responsible individual.

MATERIALS:

For this lesson, you will need:

A class library of books by conservationists, such as those suggested below, or access to a library where they can be obtained.

Computer with Internet access

PROCEDURE:

1. Ask students if they have read or heard about the book *Silent Spring* by Rachel Carson. If any students are familiar with the book, ask them to briefly summarize it for the class. If not, tell your students that this tremendously popular and influential book exposed the dangers of pesticides. Rachel Carson was one of the first to make people begin to understand that we are a part of nature and that what we do to the environment affects us. Before *Silent Spring*, published in 1962, the prevalent attitude was that people were superior to nature and that nature was a resource to be consumed.

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- 2. If you have Carson's book on hand, read one or two particularly interesting paragraphs to your class.
- 3. Tell students that they are going to have the opportunity to read Silent Spring or another conservation-oriented book of their choosing. Suggest the following titles: Sand County Almanac by Aldo Leopold (known as "the conservationist bible"), The Yosemite by John Muir, Endangered Species by Christopher Lampton, Tropical Rainforests: Endangered Environments by James D. Nations, and Spill! The Story of the Exxon Valdez by Terry Carr.
- 4. Allow students two weeks to choose and read their books. If they choose titles other than those you have suggested, you might want to approve their choices before they read.
- 5. After students have completed their reading, ask each of them to prepare an abstract of his or her book for the class. Each abstract should include a summary of the book's main points and an outline of its conclusions or recommendations concerning the environment.
- 6. In addition, have each student write a brief essay explaining the effects their books might have had on science or society and their own personal reactions to what they read. Were they inspired to become part of the environmental movement? Were they troubled or enlightened by what they read? Do they feel compelled to investigate their subjects further?
- 7. You can compile your students' writing into a reference work for future investigation about the environment.
- 8. You might ask your students to e-mail their abstracts and reviews to an on-line book forum or bookstore such as Amazon.com.

ADAPTATIONS:

Younger students can choose less complex books. They might even try to work with any one of a number of children's books on the environment selected from your school library or local public library.

DISCUSSION QUESTIONS:

- 1. Compare and contrast the ways in which Native Americans and early European settlers viewed the natural world. Compare their views with your own views as a modern-day American.
- 2. Many people complain today that much of the United States has been paved over for shopping malls and parking lots, despite John Muir's successful struggle to preserve parts of the wilderness. Has enough been done to preserve nature at the present time? Why or why not?



- 3. When politicians make laws that will affect the natural world, they often must consider whether progress or preservation is more important. Shall they allow the timber industry to cut down a forest, for example, which would provide people with jobs and new, clear land to live on, or shall they set that forest aside for preservation's sake, keeping alive any flora and fauna that require that land to survive. What criteria should politicians use in such a situation? Why should they choose one side over another?
- 4. Brainstorm a list of the qualities and educational experiences that a person must have in order to become an environmental activist. Explain your reasoning.
- 5. Pesticides were once thought to be a great innovation, until eventually scientists discovered that pesticides were harming humans as well as the bugs they were meant for. Can you think of any innovations or inventions today that seem to be beneficial for humans but that might turn out to be harmful to our health? Why are these innovations potential risks?
- 6. Brainstorm a list of possible ways that you could be a champion of the land right in your own community.

EVALUATION:

You can evaluate your students on their writing assignments using the following three-point rubric:

- Three points: abstract includes a complete and coherent account of the book's main points and conclusions; essay clear, well-organized, and error free
- Two points: abstract includes a satisfactory account of the book's main points and conclusions; essay clear but less than sufficiently well-organized with some errors
- One point: abstract shows lack of understanding of the book's main points and conclusions; essay incoherent in parts, poorly organized with numerous errors You can ask your students to contribute to the assessment rubric by setting up criteria for a clear and well-organized essay.

EXTENSION:

Environmental Awareness

Throughout the history of environmentalism, activists have used various strategies to further their causes. Bob Marshall championed government policies that would protect the wilderness by having 90 million acres declared public land. Rosalie Edge lead protest marches and attracted the media in her fight against the timber industry to preserve a rain forest in Olympia, Washington. Divide your class into groups, and have each group use the library and the Internet to research different strategies and tactics that environmental



activists have employed. You might want to suggest simple examples such as creating and distributing pamphlets, holding rallies, and inviting media attention. When their research is complete, encourage each group to apply what it has learned to a community environmental project such as increasing the number of people who recycle, reclaiming an abandoned lot, or cleaning a riverbank or a roadside. Suggest that students brainstorm an environmental project before beginning. Students should then plan how they will achieve their goal and submit their strategies for your review before implementing them. When their projects are complete, ask each group to report to the class about how effective or ineffective its methods were; then lead a discussion about what students have learned from the process. What methods would they employ again, and which would they avoid? What proved difficult in swaying public opinion about their chosen environmental issue?

Biography of a Contemporary Conservationist

The conservation movement was started by a few individuals who were so inspired by nature that they made it their life's work to protect it. Ask your students to use local newspapers, libraries, and the Internet to research someone in their state or community who may be considered an environmental role model. Students should collect and organize background information about this person, prepare a set of interview questions for him or her, and then contact their role model to request an interview. Their questions should be broad, open-ended, and varied. They should include everything from "What events from your childhood, if any, contributed to your interest in conservation?" to "What conservation issues do you feel are most pressing and why?" When their interviews are complete, have your students compile the information they have gathered into a biographical article for a community or student newspaper.

SUGGESTED READINGS:

Rachel Carson: Witness for Nature

Linda Lear. Henry Holt and Company, 1997.

Lear shares the story of a courageous ecologist who Senator Ribicoff once described as having "all mankind in her debt." Rachel Carson challenged the culture of her time and shaped a powerful social movement that altered the course of history. This book illustrates how her ideals remain a driving force in this country today.

John Muir: Apostle of Nature

Thurman Wilkins. University of Oklahoma Press, 1995.

This detailed biography offers an understanding of Muir's views on the preservation of wild places. His wilderness walking in America began his passion to create wilderness ethics and preservation. Wilkins's interesting biography allows the reader to get to know Muir and understand the movement he created.



WEB LINKS:

National Wetlands Conservation Alliance

This homepage is dedicated to furthering the wetland restoration, enhancement, and conservation.

http://users.erols.com/wetlandg/

Audubon Online

A well organized site with information for teachers and students and an interesting virtual tour.

http://www.audubon.org/

Backyard Conservation: The United States Department of Agriculture

An extensive amount of information for grades K-12 on conservation.

http://www.nrcs.usda.gov/

US Forest Service: Education

Curricular resources as well as web links pertaining to conservation are available at this site.

http://www.fs.fed.us/outdoors/nrce/

A Geography of Hope

Conservation issues from the viewpoint of private land owners.

http://www.nhq.nrcs.usda.gov/CCS/GHopeHit.html

VOCABULARY:

conservation

Planned management of a natural resource to prevent exploitation, destruction, or neglect.

Context:

Conservation policies now help to protect natural wilderness from exploitation and destruction.

environmentalism

Advocacy of the preservation or improvement of the natural environment.

Context:

Rachel Carson created the environmentalism movement and antipollution campaigns because of her discovery that the chemicals people used to control nature were actually very harmful to people.

herbicide

An agent used to destroy or inhibit plant growth.

Context:

A farmer who uses an herbicide to kill weeds also risks the danger of contaminating his or her crops.



pesticide

An agent used to destroy pests.

Context:

Although the pesticide DDT was effective for killing insects, it proved harmful to other animals as well.

revolutionary

Constituting or bringing about a major or fundamental change.

Context:

It took a revolutionary thinker like John Muir to go against the common beliefs and insist that nature should be preserved and not used for monetary gain.

ACADEMIC STANDARDS:

Grade Level: 6-8

Subject Area: geography

Standard: Understands the changes that occur in the meaning, use, distribution, and importance of resources.

Benchmarks: Understands the reasons for conflicting viewpoints regarding how resources should be used.

Grade Level: 6-8, 9-12

Subject Area: life science

Standard: Understands how species depend on one another and on the environment for survival.

Benchmarks:

Benchmark 6-8: Knows relationships that exist among organisms in food chains and food webs.

Benchmark 9-12: Knows ways in which humans can modify ecosystems and cause irreversible effects.

Grade Level: 6-8, 9-12

Subject Area: geography



Standard: Understands how human actions modify the physical environment.

Benchmarks:

Benchmark 6-8: Understands the environmental consequences of people changing the physical environment.

Benchmark 6-8: Understands the ways in which human-induced changes in the physical environment in one place can cause changes in other places.

Benchmark 6-8: Understands the ways in which technology influences the human capacity to modify the physical environment.

Benchmark 6-8: Understands the environmental consequences of both the unintended and intended outcomes of major technological changes in human history.

Benchmark 9-12: Understands the role of humans in decreasing the diversity of flora and fauna in a region.

Benchmark 9-12: Understands the global impacts of human changes in the physical environment.

Benchmark 9-12: Knows how people's changing attitudes toward the environment have led to landscape changes.

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Video Information and Comprehension Questions



Video Description

Meet some of our most important environmental pioneers as you follow the development of the American conservation movement, which began in the 1870s. Featured are John Muir, President Theodore Roosevelt, and Rachel Carson.

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Download Comprehension Questions & Answers (>)

The Comprehension Questions are available to download as an RTF file. You can save the file to your desktop and open it in a word processing program.

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TITLE OF VIDEO:

Champions of the Land

VIDEO COMPREHENSION QUESTIONS:

- 1. How did the European settlers who came to America in the 18th and 19th centuries view nature?
- 2. Why is John Muir known as "the father of conservation"?
- 3. What role did President Theodore Roosevelt play in the conservation movement?
- 4. What was the main focus of the work of the conservationist Aldo Leopold?
- 5. During the 1960s, Bob Marshall championed government policies that would protect the wilderness. How did these policies treat wilderness land?
- 6. Rosalie Edge fought against the timber industry to preserve a rain forest in Olympia, Washington. How did she accomplish her goal?
- 7. Why was Edge's victory over the timber industry important to the conservation movement?
- 8. How did Rachel Carson's book Silent Spring affect society?

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Champions of the Land

VIDEO COMPREHENSION QUESTIONS AND ANSWERS:

1. How did the European settlers who came to America in the 18th and 19th centuries view nature?

The European settlers came to America with the view that nature was to be used as a resource for their own gains. Nature was to be tamed, not enjoyed.

2. Why is John Muir known as "the father of conservation"?

Muir was the founder of the Sierra Club, one of the nation's first conservation groups. He championed the preservation of wilderness and the establishment of national parks. Muir believed that if people experienced nature, they would help to save it.

- 3. What role did President Theodore Roosevelt play in the conservation movement? President Theodore Roosevelt was an avid outdoorsman. After agreeing to join Muir on a hunting excursion in the Sierras, Roosevelt created national parks, forest services, and conservation areas across the country.
- 4. What was the main focus of the work of the conservationist Aldo Leopold? Leopold believed that nature had a value of its own that was not monetary—that wilderness was important in and of itself. He was among the first people to write about the philosophy of conservation in his book Sand County Almanac.
- 5. During the 1960s, Bob Marshall championed government policies that would protect the wilderness. How did these policies treat wilderness land? The policies stated that wilderness land was no longer available for private purchase; it was declared public land that belonged to the American people. This policy saved 90 million acres of wilderness.
- 6. Rosalie Edge fought against the timber industry to preserve a rain forest in Olympia, Washington. How did she accomplish her goal?

Edge knew that incidents of public conflict like protest marches attracted the media. By creating such incidents, she made her local conflict with the timber industry into a national issue, then garnered the support of President Franklin Roosevelt.



7. Why was Edge's victory over the timber industry important to the conservation movement?

Edge's victory was important because it was the first time that the timber industry lost a land deal. Before Edge's victory, it would have been unthinkable for land to be preserved rather than cut for timber. It indicated that the country's attitude had swayed toward conservation of wilderness rather than economic gain and progress.

8. How did Rachel Carson's book Silent Spring affect society?

Carson's *Silent Spring* introduced the idea that the pesticides that we believed were a technological breakthrough were actually toxic to people. Society began to understand the idea that we are a part of nature and that what we do to the environment affects us. Before *Silent Spring* the prevalent attitude was that people were superior to nature and that nature was a resource to be consumed.

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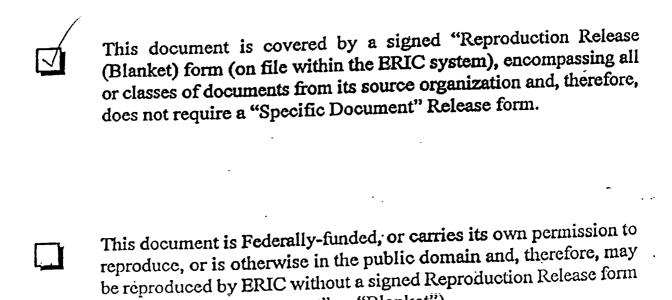


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