



Lesson: Famous Environmentalists

Grade: 4-5

Subject: English, Social Science

Objectives:

Students will:

- learn some historical facts from an environmental perspective
- understand how over time, societal changes affected environmental discovery and preservation

Teaching Time: 1 hour

Materials: Handout:

Famous

Environmentalists

Readings; worksheet,

Famous

Environmentalists

Background:

This activity presents a historical timeline of some of the most prominent environmentalists that lived in the United States. The readings offer a summary of the most notable accomplishments by each person. While covering this material, help students make the connection between the historical period in which the person lived, how society was evolving over time (from the late 18th century to today), and how these changes were often the catalyst for each environmentalists interests or discoveries.

Procedure:

- Today we are going to learn about some famous people who were all involved in environmental issues.
- Present a time line reference for students to help them put the accomplishments of each person into perspective. For example, the founding of America, the civil war, WW I and WW II, and any other relevant event that the students have already learned about.
- Read the biographies as a class or individually.

Reflection/Response:

- Discuss the implications of the readings and the importance of these accomplishments during the time the person was alive and their importance today.
- Have students complete the follow-up questions on their own.

Extensions:

- Have students pick other important environmentalists to report about or an environmental organization that they are interested in, either in writing or orally. You might suggest some of the following: Louis Gibbs, Marjorie Stoneman Douglas, Mardy Marie, Jacques Cousteau, Chico Mendes, or Ken Saro-Wiwa.
- Have students research and identify one environmental problem or issue that they would like to “solve” and why and present it to the class.

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Oregon Common Curriculum Goal:

Social Science: History

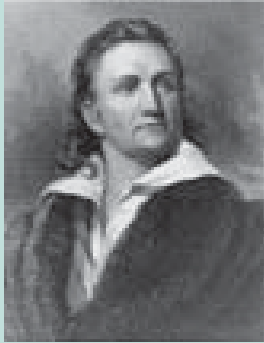
- Relate Significant events and eras in United States and world history to past and present issues and developments. (U.S. History: Era 3 - Era 10.)
- Interpret and reconstruct chronological relationships.

English: Reading and Writing

- Comprehend a variety of printed materials.
- Use writing as a tool to learn, reflect, and communicate for a variety of audiences and purposes.

Grade 5 Benchmarks:

- Understand how individuals changed or significantly influenced the course of U.S. history.
- Interpret data and chronological relationships presented in timelines and narratives.
- Analyze and evaluate information and form conclusions.
- Convey clear main ideas and supporting details in ways appropriate to topic, audience, and purpose.



Audubon



Thoreau



Muir

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The Growth of Society

John James Audubon, artist and writer, (1785-1851) was originally born in France, but he became an U.S. citizen in 1812. He is famous for his study of American birds and mammals. By 1839, Audubon had completed 435 paintings of birds that he sold as a collection of drawings and essays on bird habits. After being successful with the birds, Audubon eventually completed 155 mammal plates in 1948.

His writings are now considered a literary treasure and have significantly contributed to people’s understanding and appreciation of these animals he wrote about. The first chapter of the Audubon Society was founded in 1896, which was named to honor John James Audubon. Today, the Audubon Society continues its work to protect wildlife and focuses largely on birds.

Henry David Thoreau, writer, (1817-1862) was not a naturalist, in fact he was suspicious of science. However, he made a lasting impact on society when he moved out into the country, to Walden Pond in Massachusetts, because of his desire to live simply. Thoreau’s book *Walden*, which describes his life in the country and living in harmony with nature, earned him the title “Father of American Nature Writing”.

He first made others aware of the idea that humans are part of nature and that we function best, as individuals and societies, when we are conscious of that fact. His quote, “a man is rich in proportion to the number of things that he can afford to let alone” warns us to be mindful of our impacts on the earth.

Conservationists

John Muir, scientist, (1838-1914), studied plants and rocks and is best known for founding the Sierra Club in 1892, probably the oldest preservation environmental group in the United States. As he put it, he wanted to “do something to make the mountains glad.” The Sierra Club worked on preserving forests and other wild places in America. However, a couple of years before this, Muir had led a successful campaign to protect the area that is now Yosemite National Park in California. He also successfully convinced President Theodore Roosevelt to set aside more protected wildlife areas in the U.S. Roosevelt eventually protected 148 million acres of forests and created six new national parks.

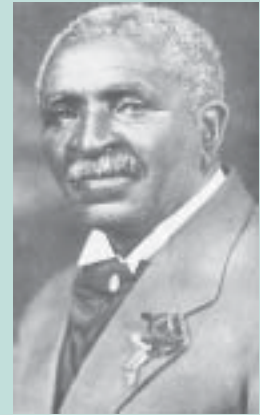
Throughout his life, Muir encouraged people to orient themselves as part of nature. His quote, “When we try to pick out anything by itself, we find it hitched to everything in the universe” was another early warning to people to pay attention to our impacts on the earth.

George Washington Carver, scientist, (1864-1943) was born during the Civil War in Missouri on a slave farm. Carver worked tirelessly to obtain an education despite many obstacles that he had to overcome. Eventually he obtained two science degrees and focused on the study of plants and agriculture. Carver’s work was critical to the way we think about managing our waste (trash) today. He did not believe in wasting materials and his research found hundreds of new uses for peanuts, sweet potatoes, pecans, soybeans and many other plants grown by farmers.

While living in the South, Carver noticed that certain crops like cotton would rapidly deplete the soil of its nutrients and make it very difficult to continue growing things in the future. He advocated the practice of composting in order to return plant materials back into the soil because many farmers hauled their plant waste away or burned it. Burning dead or harvested plants is wasteful because it releases valuable nutrients into the air instead of the soil. Also, the new found uses for many of the crops like peanuts and sweet potatoes meant that farmers could rotate the crops they planted each year which is also good for the soil. His discoveries are another example of how people have had to learn how to live in harmony with nature in order to preserve it for future generations.

Earth Advocates

Aldo Leopold, writer, (1887-1948) is considered “The Father of Wildlife Ecology.” He was a renowned author and worked as a forester. Marybeth Lorbiecki*, author of his biography, *Aldo Leopold: A Fierce Green Fire*, noted, “Multiple use [of forests] for him dealt with the multiple aspects of what a forest is -- trees, a habitat for game and songbirds, a place of adventure and respite for the human spirit, an anchor for the soil, and finally a community in which we are merely one member species. Wise use of this multifaceted community then entailed many levels of response: respect, love, a search for greater scientific understanding, and careful, conservative use of the resources.” His famous book, *A Sand County Almanac*, discussed the idea that people and farmers needed to think carefully about how land, plants and animals work together as a system. Leopold tirelessly educated others on the need for a “land ethic” where plants and animals are not



Carver



Leopold



Carson



Chadwick

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just manipulated to fulfill human needs, but that they are treated in a manner that will preserve the overall health of the environment. His book has guided many to discovering what it means to live in harmony with the land and with one another.

Rachel Carson, scientist, (1907-1964) was a marine biologist who, for most of her life, worked for the U.S. Fish and Wildlife Service. Her most notable accomplishment was her book *Silent Spring* in which she described the connection between industrial society and the serious pollution problems that had developed in the United States. Carson wrote of the dangers of chemicals that were being used in many factories across the U.S. and the hazards being caused when the chemicals were dumped into the rivers and streams.

She identified the scientific process known as “bioaccumulation” that occurred from these chemicals. Bioaccumulation is what happens when a poison is released into the environment (like chemicals that are released or runoff into rivers), that poison is then absorbed by the soil, plants and animals living in the water. Then when the plant or animal is eaten by a bigger animal, the poison continues to exist inside the plant or animal and is transferred to the next animal as well. Over time, the animals at the top of the food chain (such as an eagle) get more and more poison inside their bodies. Because of Carson’s work, scientists now know that certain chemicals (now illegal to use) had been released into the environment, had contaminated the fish that were eaten by Bald Eagles, and then caused the eagle’s egg shells to be very soft and break. As a result, these chemicals were making the eagles go extinct because they could not have any more babies.

Rachel Carson’s writings made it possible for scientists and environmentalists to think of ways to protect the eagles and the environment in the future. Sadly, she died of cancer at age 57 before she could see all the benefits of her work.

Alan Chadwick, (1909-1980) became famous for being an advocate of organic gardening. In 1967, Chadwick was hired to develop the garden at University of California, Santa Cruz. This garden, now known as the Chadwick Garden helped regenerate people’s interest in organic gardening—a practice that had been largely abandoned for mass food production on large farms using fertilizers and pesticides.

From this garden, his students have spread across the country with Chadwick inspired gardens and farms from California to Virginia—and even one in Kenya, Africa! His work was very important to help others understand natural ways to produce food without intensive

fertilizers and pesticides. Organic gardening is important because it helps protect our surface and groundwater from chemical runoff and prevents human exposure to chemicals during the application and through bioaccumulation in the environment.

David Brower, (1912-2000) was an uncompromising environmentalist who contributed to the protection of many important natural areas during his lifetime. While working for the Sierra Club (founded in 1892 by John Muir), he opposed dam building that would have flooded the Grand Canyon in Arizona. Eventually he founded two other environmental organizations called Friends of the Earth and the Earth Island Institute.

Brower and the environmental organizations he founded and worked for were also able to successfully protect the Dinosaur National Monument in Utah; wilderness areas in the Northern Cascades, Oregon and Point Keyes, Washington; and the Everglades National Park in Florida and many more beautiful places in the United States.

Sources:

*From: A Leopold Biography: Interview With Marybeth Lorbiecki. On the About.com forestry web site at: <http://forestry.about.com/science/forestry/library/weekly/aa010498.htm?pid=2820&cob=home>

Definitions of terms used in this lesson:

Advocate: a person who speaks on behalf of something they believe in or care about

Composting: the process of turning food or other plants, such as leaves and grass, back into soil so that it can be used over again by plants that are growing

Environmentalist: a person who is interested in the environment and who acts to help take care of it

Ethic: the moral quality of a belief or action; a specific set of moral qualities demonstrated by an individual or a group

Industrial: referring to businesses and factories (places that make the things we use every day)

Natural resource: things from the earth that we use to get energy or make things out of such as trees, minerals, oil, natural gas, water, etc.

Naturalist: a person who believes in the science of nature or natural processes

Preservation: to make something last; to keep it around for as long as possible

Renowned: famous

Respite: a temporary rest or postponement from something

Species: a group of plants or animals that are classified together based on their common physical or genetic similarities

Uncompromising: unable to give in to the demands of someone else



Brower



Worksheet: Famous Environmentalists

Student Name: _____

Questions:

1. Which famous environmentalist was most interesting to you? Why? _____

2. Which person do you think was most helpful to society? Why? _____

3. Who was known as the “Father of American Nature Writing”? _____

4. Describe what you think it means to have “land ethic” and name the other environmentalists that most likely also believed in land ethics. _____

5. Explain what the famous quote “When we try to pick out anything by itself, we find it hitched to everything in the universe” means. _____

6. Make a list of the reasons you believe that it is beneficial to protect some natural areas in the United States like parks and mountains. _____

7. Complete the timeline on the back of the worksheet showing when each person was born and when they died. Calculate their age when they died. Also note the dates of any major accomplishments that are listed.

8. (Optional) Write a report on someone in your city or county who works on environmental issues and share your information with the class.



Timeline: Famous Environmentalists

7. Complete the timeline.

