



History Lesson #9

Subject: History of New York State Environmental Conservation

Grade Level: 4 – 6

Irene Sullivan

Anticipatory Set:

What is Earth Day? What is the New York State Department of Environmental Conservation?

New York State Standards:

Social Studies: Standard 1.1, 1.2 - History of the United States and New York

Mathematics, Science, and Technology Standard 4: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science

Objective:

Students will understand the importance of Earth Day and protecting our natural resources by making recycled paper.

Purpose:

The purpose of this lesson is help students understand and realize how important it is to recycle and protect our natural resources.

Summary:

Throughout the history of New York State people have had to find ways to use oil, soil, timber, water, air and wildlife without depleting or destroying it. Less than half of the state's land is metropolitan and large rural areas are used to support urban needs such as for reservoirs, power plants and dumps. New York State has 261,000 acres of state parks and recreation areas that attract more than 64 million visitors each year. New York farms spread over 7.3 million acres and send \$2.9 billion a year in products to market. New York State has more than 100 non-governmental organizations dedicated to environmental protection.

Before 1870 New Yorkers were mainly farmers and village residents who struggled daily to produce food, shelter and fuel to survive times of extreme temperatures, drought and floods. They did not see nature as something that needed protection but more of a means to survive. Appreciation of wilderness began more in the cities as people didn't have to struggle with nature to survive and started to see the beauty nature had to offer them. When the Erie Canal opened in 1825 it increased business and economic growth for New York and the Nation. The canal also opened up travel around the state giving opportunity for people to travel and enjoy their surroundings. A few years later the railroad made it easier to travel to places like Lake George and the Adirondacks. At the same time people were not looking at how loggers, hunters and farmers were rapidly consuming the state's wild areas.



Learning on the Great Lakes Seaway Trail

One of America's Byways

Scientists were the first to argue that people needed to protect natural resources. In 1864, George Perkins Marsh's *Man and Nature* introduced the idea that human activity could cause permanent damage to landscape. He felt that ancient civilizations had failed because they stripped the earth bare with little regard for the future. Darwin's *On The Origin of Species* argued that nature is a constantly changing system with a number of interacting parts and that changing one part of nature might change it all. People started to look at nature as something that needed protection. New York Chamber of Commerce was a powerful force in regulating game hunting, timber cutting and protecting watersheds. Other political support came from wealthy camp owners, middle class tourists, physicians and others who valued the benefits of wild nature had to offer.

The New York State Land Commission was established in 1779 to sell off excess property. In 1866 the state purchased 700 acres of timberland in Clinton County to ensure the supply of wood for the prison system. In 1862 the Morrill Act enabled states to sell public lands to finance land grant universities, which were to teach agriculture and mechanical arts. Cornell University was established in 1865, it became the national center for the study of forestry and the natural sciences. In 1885 land around Niagara Falls was purchased by the state and reserved from private development. Governor Grover Cleveland and the Legislature established the Niagara Reservation as New York's first state park.

In the 1870's old growth timber lands owned by New York State were being sold to loggers for 70 cents an acre. They paid a bounty to hunters who brought in skulls of wolves and panthers. New York's forests were cut down rapidly and brutally with severe side effects. Poorly logged areas were causing erosion that poured silt into the Mohawk and Hudson River. The state established the Fisheries Commission in 1868 to study the impact of logging on fish and water supply. White pine was nearly gone by 1870. Spruces were cut down rapidly; bark of old growth hemlocks trees were stripped for the use in tanning factories. Paper industry shifted its raw materials from rags to wood pulp so more land was clear-cut. New York State led production of lumber in 1850, but over cutting and fires caused it to drop in 4th place in 1880 and 17th place in 1900.

Verplanck Colvin and Franklin B Hough were both commissioners. Hough studied the lumber statistics and was convinced that the state was facing disaster. He and Colvin recommended that a park should be managed not as wilderness but as a working forest with controlled logging and replanting. In the mid 1880's the state legislature created the Forest Preserve and hired game wardens. David B Hill signed into law in May 1885 the Adirondack and Catskill Forest Preserve. " All the lands now owned or which may hereafter be acquired by the State of New York shall be forever kept as wild forests and lands shall not be sold, leased or taken by any person or corporation, public or private." In 1894 voters ratified the "forever wild" clause in the State Constitution prohibiting logging on state lands. Over the next two decades the Forest Preserve fought off repeated attempts to re-institute logging and building. Game wardens struggled to enforce the laws. It took decades for deer, beaver, and other game animals to recover from near-extirmination.



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The conservation movement was developing in the early part of the twentieth century as people believed we needed scientific control of natural resources to maximize sustained yields. Theodore Roosevelt and Gifford Pinchot, son of a wealthy New York financier, led this movement. Conservationists opposed the extensive mining of natural resources; their main purpose was to promote the harvesting of nature. They believed that timber cutting can co-exist with hunting, fishing, hiking and trapping, but only if it is done in moderation. C.C Adams of the New York State Museum believed the best way to protect wild mammals was to leave their habitats undisturbed. New laws were produced to regulate New York's water, timber, and wildlife. This did not stop the destruction of forests by poor logging practices and fires, and it did not prevent the dumping of raw sewage into urban waterways.

In 1928, the five-year-old Adirondack Mountain Club endorsed a policy that combined advocacy in three areas: conservation, recreation, and education. During the Great Depression, state and federal assistance programs hasten the growth of state forests and parks, especially in central and western New York.

America was growing in environmental ethics when the development of nuclear weapons in the 1950's made it apparent that humans could destroy the planet and that contamination from radioactive fallout was detected around the globe. Also advancement in scientific studies proved that pollution could inflict long-term damage on natural systems. People were realizing that the natural resources we have are not infinite. On Earth Day 1970, Governor Nelson Rockefeller signed legislation establishing the Department of Environmental Conservation. The department is in charge of coordinating and strengthening all aspect of natural resource protection and pollution control. Americans now say they worry a great deal about water, air, ocean, and soil pollution. Science is accumulating more evidence that human activities are permanently changing nature on a global scale.

It has taken years for New York State to create laws to protect wild forests, waterways and wildlife in the state. The state had to find a way for lumber companies, fisheries and other industries to co-exists with nature. Land that once was used for survival has come to be appreciated for its beauty and for its natural resources it has to offer. We now know that our natural resources are not infinite and that they cannot be replaced. We have to teach our children the importance of respecting and preserving our land for future generations to come and enjoy the land as we do today.

Department of Environmental Conservation:

On April 22, 1970, which was the first Earth Day, Governor Rockefeller signed into law the Department of Environmental Conservation (DEC). The Conservation Department, Water Resources Commission, Air Pollution Control Board, as well as other activities from other agencies were combined. The State recognized the vital link between controlling pollution and protecting natural resources so having the one agency gave the state the ability to carry out the State's environmental policy.



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In the past three decades, state laws have created and expanded New York's environmental programs. The state has seen a remarkable recovery of air, land and water quality. There has been a renewal of fish, wildlife and forests. Safe waste management and recycling has grown. Opportunities for outdoor recreation have expanded.

The DEC works on detecting and controlling sources of pollution. They protect and manage New York's natural resources. They continue to inform and educate the public about environment, natural resources and the government's actions to protect them. The DEC has established regional offices across the state. The staff continues to do scientific assessment and take action to protect and enhance New York's environment and natural resources. Each region serves the needs of communities within its boundaries. You can go to your DEC in your county to obtain DEC permits, report any environmental or natural resource problems. You can find information on the best places to hunt, fish and enjoy the outdoors.

Forest Basics:

Forests play a vital role in our planet's natural systems. They help purify our air, protect our water and soil, and provide essential habitat for many animals and plants. Deforestation affects the quality of water, air, and soil. It destroys the habitat of species that live in the forest.

The benefits of trees:

1. **Oxygen replenishment** – Mature trees create enough oxygen in a day to support a family of four.
2. **Global warming prevention** – The trees remove heat-trapping carbon dioxide from the atmosphere. A healthy tree removes between 25 and 45 pounds of carbon dioxide from the air each year.
3. **Habitat for wildlife** – Trees provide other plants and animals with food, shade, and a place to live.
4. **Clean water** – Trees' root fibers filter our groundwater, trapping nutrients and pollutants that are potential contaminants.
5. **Energy** – Trees provide shade to homes and businesses, keeping them cool and conserving energy.
6. **Soil protection and storm water control** – Trees hold soil in place, slow the movement of rain to the ground, and absorb water, helping to prevent flooding and soil erosion.

Materials: To make one recycle sheet of paper:

1. A sheet of old newspaper
2. 10 sheets of toilet paper
3. 2 cups of water for each person
4. Jar or coffee can with a lid
5. A piece of screen or a wire mesh strainer
6. A dishpan, a large bowl, or a sink

Teach:



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1. Cover the material about the history of the DEC and how New York State dealt with the issues of logging, hunting and protecting the environment. Talk about how important it is to protect our forests and waterways. Talk about Earth Day and how society has taken an interest in saving our natural resources.
2. Divide the class into groups of 2-4 students in each group. Make sure each group has enough of the materials so each student in a group will have their own recycled paper.
3. Take the sheet of old newspaper and the 10 sheets of toilet paper and tear up into small pieces, like confetti. You could have the paper shredded ahead of time.
4. Put all the torn-up paper in the jar and add 2 cups of water. If you want colored paper, add a drop or two of food coloring.
5. Put the top on the jar and shake for 3 minutes. Now you have paper pulp.
6. Hold a piece of screening or a strainer over a bowl or the sink. Pour the pulp on top of it. Squeeze out as much water as you can.
7. Spread the pulp out to dry on a flat surface. Shape it into a rectangle, and make sure there aren't any holes in the mush.
8. Let the paper dry and you will have a piece of recycled paper.
9. Students can draw on the paper or they can write a note to the DEC about how important it is to save trees and how they have learned how to make their own recycled paper.

Guided Practice:

Assists the students on the process of making recycled paper by going around to each group and help them complete the process.

Closure:

Ask the students why is it important to recycle? Why do we have laws made to protect the environment? What can a student do to help protect our environment?

Extended Activities:

1. Take the students to the Department of Environmental Conservation. Or have someone come to the school to talk about preserving the environment. Have the person talk about what their department does in their area to help protect the natural resources.
2. Have the students write a news article on how important it is to protect our environment. Have the article cover information on what the DEC and other organizations in their area do to protect the land.
3. Have the students do a recycle day where the school collects recycle material and make arrangements to have the recyclables taken to a designated area.
4. Have the class plant a tree on the school property or in a local park.
5. Have the students find a state park or a public area that needs to be cleaned up. Have the students organize the clean up. Have them get people to come and volunteer to help in cleaning up the park.

Web Sites:



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1. http://www.archives.nysed.gov/a/reachroom/rr_env_hist.shtml
This web site has a 75-page detail on the history of New York State environmental policies and agencies that have been created. The site goes into how the environment was in jeopardy and how laws were made to protect the natural resources we have today. It is a great site for teachers to go and get more details about the history of New York State's efforts in protecting the environment.
2. <http://www.dec.state.ny.us/website/about/dechistory.html>
This web site gives a brief summary on how the DEC was formed in New York.
3. <http://www.earthday.net/pdf/howto/schools/thetrashwepass.pdf>
The website is a lesson plan geared for 4th through 7th grade. It has great ideas on how to connect Social Studies, Math and Science to environmental issues.
4. <http://www.earthday.net/goals/footprint.stm>
This web site goes into information about the ecological footprint and how it is used. The site offers a number of activities students can do to learn more about measuring the ecological footprint in their area.

Resources:

1. "Greening School Grounds: Creating Habitats for Learning", Tim Grant, Gail Littlejohn, New Society Publishers, 2001, ISBN 0865714363
2. "Beyond Earth Day: Fulfilling the Promise", Gaylord Nelson, Susan Campbell, University of Wisconsin Press, Oct 2002, ISBN 0299180409
3. "Earth Book for Kids: Activities to Help Heal the Environment", Linda Schwartz. Learning Works, June 1990, ISBN 0881601950
4. "50 Simple Things Kids Can do to Save the Earth", Earth Works Group, Sagebrush Education Resources, Oct 1990, ISBN 0833544721
5. "Save Our Planet: 750 Everyday Ways You Can Help Clean Up the Earth", Diane Maceachern, Lonni Sue Johnson, Dell Publishing Co., Dec 1991, ISBN 0440294037

Children's Books:

1. "The American Environmental Movement", Rebecca Steffoff, Facts on File, April 1995, ISBN 0816030464, young adult
2. "Earth Day Holiday Histories", Mir Tamin Ansary, Heinemann Library, April 2002, ISBN 1588105709, Ages 4-8
3. "Earth Day: Holiday on My Own Books", Linda Lowery, Carolrhoda Books, Feb 1992, ISBN 0876145608 ages 4-8
4. "Earth Day", Amy Margaret, Power Kids Press, Aug 2002, ISBN 082395787x, ages 4-8
5. "Garbage and Recycling (Young Discoveries: Environmental Facts and Experiments)", Rosie Harlow, Sally Morgan, King Fisher, April 2002, ISBN 075345503x, ages 4-8