ENVIRONMENTAL LAWS AND THE STUDENT

GRADES 6-UP

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TIME ALLOTMENT: Three 50-minute classes.

OVERVIEW:

In the past thirty years, our nation has passed laws to improve environmental conditions. Negotiations and compromises have been necessary to help industry meet the required improvements. Communities have become involved by stepping forward and petitioning local governments. Whether approaching legal solutions at the federal, state, or local level, students need to know they have a voice. A law can begin with an act as small as a petition. Students can make a difference in their community through research and knowledge of the political system. The universal problem of altered watershed due to expanding neighborhoods will become the focus of ways in which our future leaders can make a difference.

Through the activities presented in this lesson, students will become familiar with the political process, research watershed, non-point source pollution, ordinances to protect local resources, and the role they can play in saving the environment.

SUBJECT MATTER: Science and Social Studies

LEARNING OBJECTIVES:

Students will be able to:

- Specify the legal steps necessary to making a difference.
- Describe the effects of watershed.
- Explain non-point source pollution.
- Investigate local ordinances to protect resources and low impact development.
- Locate a local watershed group and explain their purpose.

STANDARDS:

National Science Education Standards
http://www.nap.edu/readingroom/books/nses/6d.html
Content Standard 3F:

As a result of activities in grades 5-8, all students should develop an understanding of natural hazards. The fundamental concepts and principles that underlie this standard include the knowledge that human activities also can induce hazards through resource acquisition, urban growth, land use decisions, and waste disposal. Such activities can accelerate many natural changes.

National Standards for Civics and Government
http://www.civiced.org/58erica.htm#10 (Grades 5-8)
Content Standard E-1:

Participation in civic and political life and the attainment of individual and public goals. Students should be able to explain the relationship between participating in civic and political life and the attainment of individual and public goals.

Louisiana State Content Standards for Science and the Environment
http://www.doe.state.la.us/DOE/asps/home.asp?I=BESE

SE-M-A4: understanding that human actions can create risks and consequences in the environment.

SE-M-A8: investigating and analyzing how technology affects the physical, chemical, and biological factors in an ecosystem.

Louisiana Social Studies Standard
http://www.lcet.doe.state.la.us/doe/assessment/standards/SOCIAL.pdf

C-1A-M8: explaining how public policy is formed, debated, and carried out at local, state, and national levels.

C-1B-M5: analyzing democratic processes used to institute change.

C-1D-M4: describing the many ways by which citizens can organize, monitor, and help to shape political participation and leadership.

MEDIA COMPONENT:

Video:

Enviro-Tacklebox™, *Enviro Rules*

This film introduces students to the importance of research and knowledge of the political system in order to elicit changes.

Web site:

Enviro-Tacklebox™ http://www.envirotacklebox.org This is Louisiana Public Broadcasting's Web site providing teaching information, films, articles and student activities involving environmental science.

Find Article. http://www.findarticles.com/cf_0/PI/index.jhtml This is an exciting research Web site that leads to endless articles in every area. Use the search option to direct the research to specific points of interest. Although this site is not utilized in this lesson, the students will use it for additional research.

Environmental Protection Agency http://www.epa.gov/ An extremely comprehensive Web site covering all environmental issues. All of the following Web sites are links originating from EPA. The Web sites are individually listed in order to lessen confusion during the research.

"River of Words" http://www.riverofwords.org/ This Web site offers an opportunity for young writers to publish their work, an excellent way to bring literature to science.

Nonpoint Source Pollution http://www.epa.gov/owow/nps/facts/ This is a fact sheet to enlighten the public to the dangers of pollutants in watershed.

Low Impact Development http://lowimpactdevelopment.org/index.htm This Web site defines and gives examples of low impact developmental projects.

Low Impact Development - Sustainable School Projects http://www.lowimpactdevelopment.org/school/index.html This Web site supplies environmental projects for schools. The best part of it is the glossary and photos of effective projects.

"Model Ordinances to Protect Local Resources" http://www.epa.gov/owow/nps/ordinance/sourcewater.htm Model Ordinances and examples of real ones are offered on this site in order to aid community groups working toward protecting their resources.

"Catalogue of Watershed Groups" http://www.epa.gov/adopt/network.html Watershed Groups across the U.S. can be found on this site. A brief description of the group and its purpose are available.

MATERIALS:

Per Student:

- Pencil and paper
- Questions for film

Per Group:

- Group assignments with Web sites

PREP FOR TEACHERS:

1. Prior to teaching this lesson, bookmark the Web sites used in the lesson on each computer in your classroom.
2. View the video becoming familiar with the segments to be used in class.

Prepare the hands-on element of the lesson by:

1. Copying the set of film questions for each student.
2. Copy the group activity sheets for each group.
3. Collecting an old paint bucket, box of detergent, and quart of oil.

When using media, provide students with a FOCUS FOR MEDIA INTERACTION, a specific task to complete and/or information to identify during or after viewing of video segments, Web sites, or other multimedia elements.

INTRODUCTORY ACTIVITY:

1. Address the class by reading a poem from "River of Words." Then turn to an old paint bucket, box of detergent, and quart of oil. Tell them that our neighborhoods are suffering. Ask them the purpose of each item. How many of them have these items at their house? What dangers do their disposal pose to our environment?
   (Guide the students to understand that many common items are disposed of irresponsibly because people do not know what to do with them. Obviously, our detergents go down the drain and become a civic responsibility. However, left- over buckets of paint and oil from working on the car are harder to dispose of properly. Many people dump them in ditches. They then become a part of non-source point pollution.)

2. Ask the students to think of other non-source point pollutants that become part of our watershed.
   (The students should answer with examples such as fertilizer, insecticides, etc.)

3. Tell the students to work in groups and brainstorm some solutions to the problems of disposing dangerous household chemicals. Discuss their solutions and focus on the best.
   (Lead the students to find a practical solution such as a central depository for these items. One could exist in each neighborhood or several locations in town.)

LEARNING ACTIVITIES:

1. Ask your students if they can make a difference. Tell them that they are about to watch **Enviro-Tacklebox™: *Enviro Rules***. This film will explain the avenues in which students can participate to make a difference. It will also outline the legislative process and show how other students have brought about legal change.

2. Pass out the questions for the film. Direct the students to note as many answers as possible.

3. Insert Enviro Rules into your VCR. *Provide your students with a **FOCUS FOR MEDIA INTERACTION**, asking them to look for the answers to the following questions:*
   a. *What are two ways students can get started in the political process?*
   b. What law was passed that involved recycling?
   c. How long would the process take?

Start the tape at the beginning and stop it at the man in the library. This segment is approximately four minutes. Discuss the answers to the questions with the students.
(The students could start a petition and enter the contest, "There ought to be a law…" The law passed was the "Recycling Container Availability Act." The legislative process could take two to three years. Emphasize that the legislative process is slow and complex.)

4. *Provide your students with a **FOCUS FOR MEDIA INTERACTION**, asking them to look for the answers to the following questions:*
   a. What is the "Clean Air Act?"
   b. Did industry meet its deadline?
   c. *What were the important aspects of the writing of the "Endangered Species Act?"*

Start the tape at the stopping point and stop it at the map of Louisiana. This segment is approximately three minutes. Discuss the answers to the questions with the students.
(Industry did not meet its goal. Congress had to amend the law to allow more time. The "Endangered Species Act" was written to be flexible. Species can be added and removed from the list. Any individual can petition for a species. Emphasize the importance of legal flexibility.)

5. *Provide your students with a **FOCUS FOR MEDIA INTERACTION**, asking them to look for the answers to the following questions:*
   a. What is the purpose of Girls and Boys State?
   b. Describe the students' participation.

Start the tape at the stopping point and stop it at the man with the potato. This segment is approximately three minutes. Discuss the answers to the questions with the students.
(The purpose of Girls and Boys State is to create informed citizens that can make a difference. The students create bills, work on committees, debate, form amendments and vote. They actively participate in the legislative process. Emphasize the necessity of cooperation.)

6. *Provide a* **FOCUS FOR MEDIA INTERACTION**, telling the students to follow the outline provided on the legislative process:
   a. Bill goes to the House of Representatives Committee. (It is studied and if approved,)
   b. Bill goes to the House of Representatives Floor. (It is discussed, amended, ditched, or if approved,)
   c. Bill goes to the Senate Committee. (They may ask for additional information, discussed, change, and if approved,)
   d. Bill goes to the Senate Floor. (If it is amended, it goes back to the conference committee. If it is approved, it goes to the **highest government official**)
   e. Bill goes to conference committee. (Representatives and Senators negotiate. If it is agreed upon,)
   f. Bill goes back to House of Representatives and the Senate. (If it is passed,)
   g. Bill goes to the highest government official, the governor or the president. (If it is signed, it becomes law. If it is vetoed,)
   h. Bill goes back to the House and Senate. (If it is passed with a two thirds vote,)

i. Bill passes into law. (However, if it is brought up in a legal case,)
j. Bill goes to the Judicial System (If it is found unconstitutional,)
k. Bill is taken of the books. (If it is found constitutional,)
l. Bill is on the books.

Start the tape at the stopping point and stop it at the fireworks. This segment is approximately three minutes long. Review the legislative process and checks and balances with the students.

7. *Provide a **FOCUS FOR MEDIA INTERACTION**, telling the students to look for the answers for the following questions:*
   a. What was destroying Black Mountain?
   b. What steps did students take to change the law?
   c. Did the students compromise after doing more in depth research?

Start the tape at the stopping point and stop it at the map. This segment is approximately four minutes. Discuss the answers to the questions with the students.

(Strip mining was destroying Black Mountain. The students researched endangered species and pollution from the mining. They also took a field trip and saw samples of damaged wells. They met the people who were dependent on the mining industry for their jobs. The students also wrote letters to the mining executives and government officials. A story of their campaign was in the press. All this brought the attention of a state representative. The students compromised when they realized that many people depended on the mining for jobs. They agreed to save only the top portion of the mountain.)

8. *Provide a **FOCUS FOR MEDIA INTERACTION**, telling the students to look for the answers for the following questions:*
   a. What problem did the students target?
   b. What government agency did they approach?
   c. What legal position was altered?

Start the tape at the stopping point and stop it at the end. This segment is approximately four minutes. Discuss the answers to the questions with the students.

(The students found that the town had a lot of neglected property that was hazardous. They approached the City Council. The City Council imposed maximum fines for neglected properties.)

CULMINATING ACTIVITIES:

1. IIn order to understand the impact of legislative knowledge and community involvement with the environment, the students will more fully research watershed, nonsource point pollution, low impact development, informing the public, and getting involved with local groups interested in the same goals. The attached group assignments are designed to adapt to various learning interests. Work with your students to sign up for the group of their interest. Pass out the attached group assignments. This is a good activity for the computer lab. The students will go to the assigned Web sites and print the necessary information. If the students do the research in a one or two computer classroom, direct the groups to brainstorm and list the environmental problems in your community while waiting for their computer time.

2. The students will work in groups to complete their presentations. Posters should include pictures, diagrams, and summaries of the information as they apply to the topic.

3. The students will take turns presenting the assignments to the class. Direct the students to the information on which they will be assessed.

4. Assessment of this lesson can be based on participation and group assignments.

CROSS-CURRICULAR EXTENSIONS:

LANGUAGE ARTS:

- The students can write and their experiences and feelings about the environment. It can be in an analytical paper or creative.

MATHEMATICS:

- Refer to the "Low Impact Development" articles and decipher the mathematical advantages of the lessoning of pollutants into the watershed.

TECHNOLOGY:

- Have the students thoroughly explore the EPA Web site.

VISUAL ART:

- Enter the "Environmental Art and Gallery" Web site for student involvement. http://www.niehs.nih.gov/kids/gallery.htm.

COMMUNITY CONNECTIONS:

- Plan a field trip to an anaerobic wastewater management site. Find out the benefits of this system as opposed to the traditional methods of handling a community's waste.
- Invite an environmental scientist visit the class and explain efforts that are being made in your community to manage altered watershed.
- Contact the parish or county officials to research local laws that impact watershed.
- Form a group of interested students to encourage a community plan to increase environmental support.

STUDENT MATERIALS:

- Handout 1: ***GROUP ACTIVITIES***
- Handout 2a: ***FILM QUESTIONS***
- Handout 2b: ***STEPS IN THE LEGISLATIVE PROCESS***

GROUP ACTIVITIES

GROUP ONE – WHAT IS WATERSHED AND WHY IS IT IMPORTANT?

"River of Words" - What is a Watershed? http://www.riverofwords.org/ Research watershed and nonpoint source pollution to show why it is important to control pollutants that can be carried to rivers, streams, and lakes. Collect the information and present to the class.
Click on **what is a watershed**.

Nonpoint Source Pollution http://www.epa.gov/owow/nps/facts/ Click on "Managing Uban Runoff" and "Nonpoint Source Pollution: The Nation's Largest Water Quality Problem", and print.

GROUP TWO – LOW IMPACT DEVELOPMENT

Low Impact Development Center, Inc. http://lowimpactdevelopment.org/ Research low impact development in other areas of the country. Use examples from the Web site to inform the class about the possibilities in your area.

LID Sustainable School Projects
Go to the Web site and click on "LID Downloads (ftp site)." Choose "Bioretension Applications" and "Field Evaluation of Permeable Pavements for Stormwater Management" and print.

Low Impact Development - Sustainable School Projects http://www.lowimpactdevelopment.org/school/index.html Go to this Web site for the Glossary and pictures.

GROUP THREE – ORDINANCES TO PROTECT LOCAL RESOURCES

"Model Ordinances to Protect Local Resources" http://www.epa.gov/owow/nps/ordinance/sourcewater.htm
Print out two short local ordinances and study the organization and content of the ordinances. Explain to the class the basic steps taken in writing one.
Click on **Model Ordinances Language**.
Print out a model ordinance for surface water or groundwater.
Click on **Ordinances and Supporting Materials**.

GROUP FOUR – LOCATE A LOCAL WATER SHED GROUP

"Catalogue of Watershed Groups" http://www.epa.gov/adopt/network.html Contact a local watershed group and find out the measures they are taking to improve watershed problems within your community. Arrange for a member to address the class.
Go to the Web site and locate the watershed group closest to you by clicking on "state." Choose your state and a list of groups will come up by cities. Choose the city nearest to you.

GROUP FIVE – RIVER OF WORDS

"River of Words" http://www.riverofwords.org/ Visit the Web site to view literature written by other students that are interested in the environment. Choose two or three pieces to be read to the class. Write your own poem to be presented and then submitted to "River of Words." Arrange to present at a PTA meeting or school assembly.

FILM QUESTIONS

1. *What are two ways students can get started in the political process?*
2. *What law was passed that involved recycling?*
3. *How long would the process take?*
4. *What is the "Clean Air Act"?*
5. *Did industry meet its deadline?*
6. *What were the important aspects of the writing of the "Endangered Species Act"?*
7. What is the purpose of Girls and Boys State?
8. Describe the students' participation.
9. What was destroying Black Mountain?
10. What steps did students take to change the law?
11. Did the students compromise after doing more in depth research?
12. What problem did the students target?
13. What government agency did they approach?
14. What legal position was altered?

STEPS IN THE LEGISLATIVE PROCESS

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