



Earth! Fire! Wind! Water! Elections! Real World Environmental Decisions

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Overview

Topic: Civics and economics; government regulation of business; how governments produce public services; the impact of technological innovations on municipal decision making. In this lesson students will examine the effects of pollution on the quality of life of a community and discuss preventive measures the community could take to prevent water pollution. Students will take part in the decision making process of a small simulated community when dead fish are discovered in the waters of its lake.

Time Allotment

Four 45-minute periods

Learning Objectives

On completion of this lesson students will be able to:

- Explain the various factors that influence a specific municipal decision making process.
- Examine the tensions between economic and political interests in municipal policy making, specifically, industrial growth vs. environmental quality
- Consider the role of government in a mediating environmental issues;
- Identify the factors that produce water pollution
- Draw conclusions about available water pollution prevention measures.

(This lesson addresses Va. SOL Social Studies CE.11)

Media Components

- Videostreaming: *TLC Elementary School: People and the Environment*. 2004. Discovery Education. www.wvpt.unitedstreaming.com/

Segment Used:

Segment 13: Water Pollution (5:14)

- Websites:
 - “Captain Planet” lyrics: <http://www.turner.com/planet/credit-song.html>
 - “Captain Planet” theme song: <http://captain-planetfdn.org/default.aspx?pid=4&tab=plane-teeer>
- “Decisions, Decisions: The Environment,” a multi-player, roll-playing simulation game by Scholastic, Tom Snyder Productions
- Computer with Internet access
- LCD projector (Note: optional: it is possible to use the computer monitor like a TV screen if you don’t have access to a projector. Just turn it around to face the class.)
- Interactive whiteboard (Note: optional, but is an added convenience during the presentation.)

Materials and Student Handouts

- All materials are provided through the “Decisions, Decisions: The Environment” game



Teacher Preparations

- Download the United Streaming *TLC Elementary School: People and the Environment* and cue it up for projection at 1:54 into the segment. The audio cue is “Water is a valuable resource.”
- Download “Captain Planet” theme song from <http://captainplanetfdn.org/default.aspx?pid=4&tab=planeteer>
It is available elsewhere, but this page has a continuous loop as well as an illustration of the Planeteeers. Download the site at <http://www.turner.com/planet/credit-song.html> which as the printed lyrics to the Captain Planet theme song.
- Load the “Decisions, Decisions” CD into your computer or CD player and hit “Run.” When the page showing the contents of the CD comes up, hit “Setup” and walk through the setup procedures for your computer. After setup is complete hit the “ENVMTCD” icon to run the program. Once the program is running, hit “New” to start a new game. The program allows you to play the game as a whole class, as a multi-team rotation, or as a single team. This lesson calls for playing in multi-team rotation, so decide how many teams you want to play (five to a team is the number used in this lesson plan, but more or less will work too), hit “Multi-team Rotation” and enter the number of teams when prompted. Ignore “Online Setup” (it is possible to play with students at other locations online but that is not called for in this lesson plan) and hit “Finish.”

Introductory Activity

1. Focus: Say: Anybody here a Planeteer? The television show, Captain Planet and the Planteers, ran from 1990-96 and, if you are now in the 8th grade you were born around, what, 1997? So it may be before your time, but maybe some of you have seen the show on TV. [Note: If no one is familiar with Captain Planet you can summarize the series: “Gaia, the spirit of the Earth, is awakened from a long sleep by human activity destroying the planet. Realizing that the damage is extensive, Gaia creates five magic rings, each with the power to control an element of nature and one controlling the extra ele-

ment, heart. Gaia sends the rings to five chosen youths across the globe: Kwame, Wheeler, Linka, Gi, and Ma-Ti. These five are dubbed the Planeteeers and given the task of defending the Earth in the case of the greatest of disasters and doing their part to keep others from happening. Gaia uses her “Planet Vision” to discover where the most devastating destruction is occurring and sends the Planeteeers to help solve the problem. The Planeteeers use transportation based on solar power in order to avoid causing pollution themselves. In situations that the Planeteeers cannot handle on their own, they can combine and magnify their powers to summon Captain Planet, who possesses all of their powers magnified, symbolizing that the combined efforts of a team are stronger than its individual parts. Captain Planet only appears in his Captain Planet garb. These are not clothes but elements of the Earth that are integral to his composition. He is able to rearrange his molecular structure to transform himself into the various powers and elements of nature. Once his work is done, Captain Planet returns to the Earth, restoring the Planeteeers’ powers. When he does this, Captain Planet reminds viewers of the message of the series with his catchphrase, “The power is yours!” (Taken from the wikipedia website http://en.wikipedia.org/wiki/Captain_Planet_and_the_Planeteers)

Listen to the lyrics of the theme song and tell me who you think the “bad guys” might be, according to the lyrics.

Activity: Turn up the volume of the theme song on the site

<http://captainplanetfdn.org/default.aspx?pid=4&tab=planeteer> and open the website with the printed lyrics at <http://www.turner.com/planet/credit-song.html>

Let the theme song play through three times and then turn the volume down.

Follow up: Ask: What two things do the “bad guys” do? Right, “loot and plunder.” What does that mean, to loot and plunder? It means to steal, as in “The Barbarians looted Rome,” and “The pirates plundered the treasure.” What do you think “loot and plunder” means regarding the environment? How can things be stolen from the environment? So who do you think this super hero goes after? (Note: In the series, “A small group of villains, usually referred to as the Ecovillains, make appear-

ances repeatedly in most episodes. They are well aware that what they do is wrong, yet they do it anyhow, simply because of greed, selfishness, or a desire for power. Due to conflict among them from their varying self-serving interests and backgrounds, they tend to work alone most of the time. Each of these villains represent a specific ecological disaster. These include: Hoggish Greedly – A pig-like human who represents the dangers of unchecked industrialization and greed. Looten Plunder – A wealthy poacher and greedy businessman who represents the evils of uncontrolled capitalism. For further list of villains to go the wikipedia website http://en.wikipedia.org/wiki/Captain_Planet_and_the_Planeteers#Villains)

Videostreaming

In order to use videostreaming interactively with students, teachers should use pre-segmented clips provided by the videostreaming company. If you wish to conduct a discussion before the clip is over and then resume after the discussion, use PAUSE, as this will cause the media player to remain at the current location in the stream. If the remainder of the video clip will not be used and the teacher wants to return to the beginning of the video clip, then use STOP so that the media player will revert to the beginning of the stream.

2. Focus: The series “Captain Planet” has its heart in the right place, but the idea that by going after a few Ecovillains will solve all our environmental problems is a little over-simplified. Why do you think I say that? Can you name any other sources of pollution that don’t involve bad guys looting and plundering? (Note: lead the conversation to elicit the conclusion that a lot of pollution is caused by all of us and requires a group solution.) I want to focus our attention on water pollution today, so as we watch the following video segment, see if you can spot some of the factors that produce water pollution. (The video segment is 1 minute, 11 seconds long.)

Play: *TLC Elementary School: People and the Environment*, Segment 13, Water Pollution. Start at 1:54. Audio cue, “Water is a valuable resource.”
Stop: at 3:07. Audio cue, “There are many ways we

can conserve the fresh water we do have by using it carefully.”

Follow-up: Ask: What are some of the factors they mentioned that produce water pollution? Who is responsible? What factors do you think we are all responsible for?

3. Focus: Say, “Now that we have identified some of the factors that cause water pollution, what can we do as individuals to stop water pollution?” (Ask for suggestions and make a list on the board.) Say, “See if this video segment as any additional ideas.” (The video segment runs for 1 minute, 8 seconds.)

Play: Start video at 3:07. Audio cue, “What can people do to save our fresh water?”)

Stop: at 4:18. Audio cue, “Water looks so pretty when it’s clean.”

Follow-up: Did we miss any? What other ways can we stop water pollution. How can we help stop pollution as a community?

Learning Activities

1. Focus: Imagine that you are the mayor of a small town in the mountains and the fish in the town’s lake start dying off. What would you do? Think about that open-ended question for a minute while we divide into teams.

Activity: Divide into teams of 5 (more or less on a team will work) with a maximum of 6 teams and tell each team to elect a mayor from their five members.

Start the game program and click through the first 10 pages which explain the basic situation. When the 10th page says “Be sure to consult your advisor briefing books” pass them out – one each of four to each of the teams and tell each mayor to assign one to each of the other four team members who will be the mayor’s advisors. Also, pass out one “decision log” to everyone. Click to the next page which instructs them to read the background information and then help the mayor determine their goals. Tell them to write down their goals in order on a piece of paper.

Give them about ten minutes then click to the next page and ask one team to come and enter their goals. Have the team write down “team one” so

they don't forget their team number. After entering their goals, allow them to click through the next five pages and then write down their options. (It is also possible to print out their options at this point.) Then let them click to the next page and write down the four advisor keywords. Tell them to go back to their group's meeting place so each advisor can read in their advisor's book what it says under each keyword and the group can discuss and decide on which option to choose.

While they are doing this and making their next decision, get another team to come to the computer to enter their goals as team number two. Repeat the process until all teams have put in goals. By this time, one of the teams will have discussed and decided on its choice of options and can come up to the computer. Teams do not have to go in order, but they have to remember what their team number is so they can register before entering their choice of options. After a team has completed all 5 decisions, the outcome is announced as well as the mayoral election results.

After the results are announced ask each team how they thought they did, then click to the next page and have the team put in their estimate of how they have done achieving each of their goals. (Note: It is important to hit the print button before advancing to the next page because that will print out a record of each decision made and the results.)

Follow-up: Say there are a number of other sites available with information about water pollution. Here are a few that might interest you for further research.

- <http://www.epa.gov/students/> — careers and activities
- <http://www.stuffintheair.com/water-pollution-pictures.html> — gross pictures of pollution
- <http://www.agius.com/hew/resource/water.htm> — how water pollution affects health

Collect the worksheets. The results of the team assessment can be graded to assign each team a grade. Discuss the graded results with each team. (Note: it is optional to announce a team winner.)

Culminating Activities

Focus: In real life, none of the events simulated by the game you have just concluded would have happened in a vacuum. Although the mayor of the town is important, and the town's major business is important, and, of course, the voters are important, one of the "big players" was hardly mentioned: "the news media." Whenever there is a crisis, the news media plays a critical part in exposing the problems and shaping the solutions. Imagine how the media would have reported on the situation your team has just gamed.

Activity:

- Write an investigative newspaper report for the Alpine Times about the events leading up to the mayoral election.
- Write a protest song about the death of the fish and the degradation of the local environment in Alpine.
- Two years after the event, the Mayor is running for Governor of the state. Write the chapter of his campaign autobiography dealing with the events involved in the simulation game.
- Create a short graphic novella about the events of the simulation game.
- Write a newspaper editorial in favor of Maleco's position.
- Create a broadcast news script to be presented to the class.
- Write an eco-blog as a blogger living near the lake.

Follow-up: Projects can be presented and performed before the class audience or displayed on classroom bulletin boards.

Assessment

- Teacher observation of participation in viewing and discussing the video segments.
- Grading the team assessment
- Teacher observation of participation in group discussion.

Community Connections

- Invite someone from the local sanitation department to come to the classroom and speak about how your town treats waste water and disposes of solid waste.
- Invite a member of your town's Chamber of Commerce to debate a member of the Earth Liberation Front or similar radically committed organization to debate the question, "Resolve: Our Town Should Have a Local Tax on Trash."

Cross-Curricular Extensions

- Take a field trip with a science class to take water samples of a local body of water and have them tested for organic pollutants and toxic chemicals, then, after getting the results, have students write an explanation of possible sources of pollution for each pollutant. Selected papers should then be sent to the town council, the local newspapers, and the nearest EPA branch office.
- With one of the foreign language classes, have students compose letters to a student in a country which speaks the language of the class to tell them about the pollution problems in your area. Ask them if they have such problems in their country. Penpals can be located for this purpose on sites like www.linguistic-funland.com/teslpenpl.html

About the Author

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Dan Stanley teaches English to 10-12th grade students at Warren County High School in Front Royal. He obtained his NETS*T certification in the spring of 1993 and became a Master Teacher for NTTI in 2006.

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