ROBERSON MUSEUM AND SCIENCE CENTER

Post-Visit River Quest

Grade Level: 4 through 12

New York State Standards: MS & T 1, 3, 4, and 6

Pennsylvania State Learning Standards: S & T 3.2, 3.3, 3.5, 3.7, and 3.8

Objectives: After gaining an understanding of the importance of our local watershed and water quality in the "River Quest" program at Roberson Museum and Science Center, students engage in a global water quality problem. Students study the largest oil spill in North America, that of the Exxon Valdez. As they learn about the spill, students will read an excerpt about the spill that was paraphrased from several articles and they also watch a short video dealing with the clean-up process that was produced by Exxon. After this, students are asked for an opinion as to what they believe about how things stand today nearly 20 years later. Has the environment fully recovered?

Materials:

- Video "Scientists and the Alaskan Oil Spill; The Wildlife, The Cleanup, The Outlook. 1992 Exxon Company. A Video For Students. (Playing Time 22 Min) VHS available at BOCES.
- Copy of article "The Valdez Oil Spill" (At end of this Post-Lesson Plan).
- Paper, Pen or Pencil

Procedure:

1. Obtain a copy of the Video "Scientists and the Alaska Oil Spill" from BOCES or order one to keep directly from Exxon Corporation or Amazon.com.
2. Have students watch the video during class (22min).
3. Lead class in a discussion or hand out a copy of the article "The Valdez Oil Spill"
4. Students can read the article to themselves or for homework.
5. Assignment: students can write an opinion paper based on the video they watched and the article they read. Which do they believe is more realistic? Where do they think the truth stands? Is it one sided? Somewhere in the middle? What are some things that should be

done to prevent this from happening again? Students should be able to explain how water pollution "messed-up the food chain." Students can write an opinion based paper after you have had a discussion in class. Encourage students to go on-line and look up the Exxon Valdez Oil Spill today. The Supreme Court is going to hear Exxon's case this year (2008). They should be able to find a lot of information for their papers on-line.

Attachment: Article "The Valdez Oil Spill"

Conclusion: Students will gain a global understanding of how large scale pollution can also affect them. They will also become aware of how different individuals can look at the same situation (the oil spill), and give totally different, biased reports. Students will gain the ability to think for themselves and form opinions based on facts.

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The Valdez Oil Spill

On a calm clear night off the coast of Prince William Sound, Alaska, the Exxon Valdez began its journey to California carrying with it 1.2 million barrels of crude oil from the Alaskan Pipeline. At the time that the pipeline was built, no one could conceive of a disaster. But it was on March 23, 1989, just three years after this state-of-the-art super tanker had been built, that disaster struck. On this beautiful calm night, the Captain of the Exxon Valdez went below deck and left the ship in charge of an unauthorized third mate. The Captain was intoxicated. The Coast Guard Surveillance Radar Commander was not paying attention and the ship was a mile off course. At 12:04 am the Exxon Valdez plowed into the rocks off nearby Bligh Island ripping into her and gashing a hole into her hull that was 6 feet by 20 feet long. Eleven million gallons of crude oil spilled into the icy waters of Prince William Sound, the largest oil spill on record in North American waters.

The response was slow, taking ten to twelve hours before any real response was noted. The emergency clean-up equipment was inadequate, and no one knew where to find it. Local fishermen, in a last ditch effort to save their industry, deployed their own equipment to help protect hatcheries. Oil spreads rapidly on water and less than 4% of the oil was recaptured. Soon oil-soaked bodies of dead sea birds by the thousands were emerging. Hundreds of dead sea otters, their fur covered with oil, washed up on shore. Millions of dead fish floated to the surface. The slick covered 900 square miles. Oil also emulsifies with water and covers shorelines forming a toxic slime that lasts for months. Exxon's crews worked inefficiently. After six weeks they cleaned only one out of the 400 miles of contaminated shoreline.

The Exxon Valdez disaster certainly taught us a lesson on preparedness. Who knows what lies ahead? What will happen to animals such as seals, sea lions, grizzly bears, salmon, whales and Sitka black-tailed deer that migrate to the area looking for food? Most biologists estimate that there will be adverse ecological effects for ten or twenty years to come.