

NGSS Standards

HS-LS2-7 Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

Crosscutting Concepts

Systems & System Models A

system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.

Related Resources

Pair With GRS Priorities for Protection Lesson

Websites

http://www.childrenofthespills .org/index.php/people

Overview

Many important parts of ecosystems, economies, and communities could be changed by an oil spill.

Objectives

- Students will analyze and formulate opinions about the relative importance of protecting various components of local ecosystems.
- Students will discuss different values and priorities in the context of protecting local areas from oil pollution.

Materials

- □ Community Meeting Scenario Cards
- □ Whiteboard/Posterboard
- \Box Pens or Pencils
- □ Science Notebooks or Paper
- □ Markers
- □ Excerpts from Interviews with Children Affected by Oil Spills <u>http://www.childrenofthespills.org/index.php/people</u>
- □ Computer/Projector/TV/SmartBoard to View Videos

Background

In this activity, students participate in a mock community meeting in response to an oil spill. They have to identify and prioritize areas for protection based on their knowledge of the local areas.

Notes

Preparation

Visit <u>http://www.childrenofthespills.org/index.php/people</u> to choose excerpts of video interviews with children affected by oil spills. A DVD of video excerpts is also available upon request through the Children of the Spills website.

Introducing the Lesson

Briefly explain some of the facts of the Exxon Valdez oil spill and other oil spills. Ask students, "Could something like this happen here?" Explain that it could indeed happen, and in many places, it has happened in the past. Ask students, "If YOU were in charge, what places would you want to protect?" Explain to students that they are going to do a mock City Council or Village Council meeting to respond to an oil spill.

Activity

- 1. At this point, accept a nomination for one student to run the meeting (this will be the Mayor or Council President). Ask for a volunteer or assign a student to assist the mayor (this will be the Clerk or Council Vice President). Select a student with good handwriting to be the secretary and write ideas on the large paper pad. Everyone else will be council members.
- 2. Have volunteers read scenario cards 1, 2, and 3.
- 3. Proceed with a mock council meeting. Give students 5 minutes to develop their own list of priorities for protection. Then, the Mayor/ President should call on all council members to speak in turn. The Secretary writes down ideas. The Mayor/President then provides an opportunity for discussion, up to 30 minutes. Provide scaffolds, as necessary, to assist students on building on each other's ideas and respectfully disagreeing. After 30 minutes, a list of top 3 priority sites should be ready for submission to the response team.

Wrap-up

At the end, ask if anyone suggested protecting anything that wasn't a beach, stream, marsh, etc. What about other things important in the community that could be affected by the spill and clean-up efforts? What about recreation? What about foods? What about children? Play video excerpts from interviews with children affected by oil spills that highlight some of the less obvious effects. Ask students if they want to add anything to the list.

Look at the list that the class has chosen as priorities for protection. Have students create a list of ways that these areas are already protected or threatened. Have students brainstorm actions they can take to protect these places before an oil spill happens. Implement one (or more) of these ideas.

Assessment

Evaluate student collaboration, cooperation, and consideration of their peers' ideas during the community meeting. Listen during discussion for arguments based on evidence from their own life and science ideas. Students who successfully meet the performance expectation will work together throughout the course of the community meeting will design, evaluate, and refine a priority list that can help to reduce the impacts of human activities on the environment and biodiversity.

Pair With

Priorities for Protection Lesson Plan

Community Meeting Scenario Cards

SCENARIO CARD 1

An oil spill just occurred in _____. The tides, currents, and winds are carrying much of the oil ______. It is projected that large amounts of oil will reach your community within the next 24 hours.

SCENARIO CARD 2

Our hope is to be able to prevent oil from reaching the most important resources and areas. We have limited materials available, however, so we will need to prioritize which sites are most important.

SCENARIO CARD

We are asking you, as the council, to create a list of the top **THREE** local areas that you believe are most important to protect from the oil. Please consider their importance to people as well as wildlife and the overall environment. You may list other places of importance, but we need you to prioritize your top **THREE** sites. You have thirty minutes to create your list.

MAYOR/COUNCIL PRESIDENT ROLE:

Your responsibility is to make sure that the meeting proceeds in an orderly manner and that everyone has a chance to share their ideas and opinions. Call on all council members to speak in turn. Make sure they explain WHY something is important to protect. Once everyone has shared their priorities, provide an opportunity for additional comments and debate by calling on people that wish to speak further. You also must decide when it is time to decide the top three priorities. The Clerk will help you to budget time.

CLERK/COUNCIL VICE PRESIDENT ROLE:

Your responsibility is to make sure that the list is created in the 30 minutes allotted. Make sure that your Mayor/President knows when 5, 10, and 20 minutes have passed.

SECRETARY ROLE:

Your responsibility is to record the suggestions so that everyone can see. You will also write the final list of 3 top priority sites to be submitted to the response team.