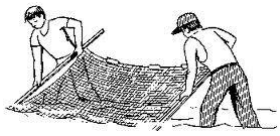


Oil and Animals Don't Mix [MC]

Grades: 3-5
Time: 45 minutes to 1 hour

Goals: To demonstrate how conservationists assist organisms and ecosystems in danger from oil spill disasters.

Objectives:
Students will be able to: define natural disaster; define man-made disaster; define conservation; describe how conservationists save wildlife after an oil spill.

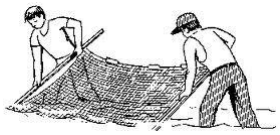
Materials:

Vegetable or cooking oil
Dish soap (preferably Dawn®)
Stuffed animals (small)
Large plastic bowls
Water
Paper towels

Procedures:

1. Pre-Activity (introduction): Begin with a discussion about conservation and oil spills. Discuss where oil comes from, how it is transported, and what happens during an oil spill. Have the students define conservation in their own words before elaborating on ways humans have begun to conserve and save wildlife. Ask them what they do at home, in their school, or in their communities to protect the environment and to protect wildlife. Some answers may include turning the water off when they brush their teeth or turning lights off when they leave the room.

2. Activity: Divide the class into "conservation teams" of 3-4 students. Each team will get a bowl of water, stuffed animal, and oil. You will put the oil in the water for them. Instruct each team to place the stuffed animal into the water, coating it with the oil. They will then use the soap (if using Dawn® explain that this is the same soap conservationists use) to clean their animals the best that they can. When they are done, they can use the paper towels to dry off their animals and their hands.



3. Post-Activity (review): Discuss as a group how difficult it was to get all the oil off of their stuffed animals and how difficult it is when oil gets on fur and feathers (it is thicker). Explain that because oil and water don't mix well, they can't just use water to wash off their animals. It will leave a film of oil on the animal. Ask the students what oil might do to wildlife. Elaborate on how birds are unable to fly since the oil weighs down their feathers, mammals are unable to insulate their bodies, and reptiles would overheat. Have the students think of better ways to transport oil overseas, across the country, or find alternatives to oil as a source of energy and fuel.

Key Words:

Oil spill Marine biologist Conservationist
Natural resource

Background Information:

Adapted from Smithsonian Education

Oil spills are a common side effect of human use of the ocean for transport and harvest of natural resources. Oil is an indispensable part of current first-world operation, but the effects of accidents involving transport can be disastrous for marine life and ecosystems.

When an oil tanker runs aground, millions of gallons of oil are spilled into a small area within a short period of time, causing millions of dollars of damage to the tanker, sea life, and the coastal area. Crude oil can be detrimental to marine mammals and birds because once their fur and feathers are laden by the oil, it is more difficult to stay insulated. Intertidal organisms come in contact with congealed balls of oil as they are brought to the surface and coastline by wind, waves, and currents.

On the water's surface, crude oil is called a slick, and must be congregated by skimming, usually with a boom. Oil that is caught in currents is much more difficult to clean up and can have more long-lasting damage as it congeals or comes closer to shore. At the surface, oil slicks can blot out the sun, making photosynthesis more difficult. At the bottom of the food web, phytoplankton concentrations will deplete, causing a chain reaction to the top of the food web.

One of the biggest acts of conservation immediately following an oil spill is to address the organisms which have survived the spill but are covered in oil. Dish soap has become the standard at removing oil from fur and feathers and Dawn® has become the soap brand of choice because of its ability to remove the oil without harming the animal further. There has been the need for alternatives to oil as a fuel, especially since such catastrophic spills as the Exxon Valdez in 1989 off of Alaska and Deepwater Horizon in 2010 in the Gulf of Mexico, both of which have caused lingering damage to the ecosystems.