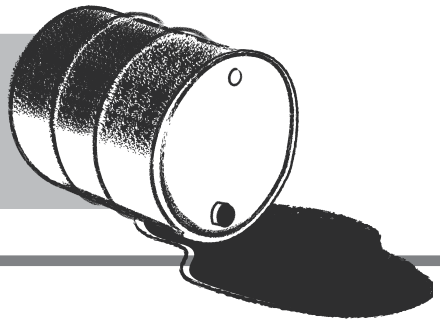
Clean Up the Oil Spill — SCOUTERS' TIPS

CUB SCOUTS

PLAN-DO-REVIEW

STEM | Science | Technology Engineering | Mathematics

In this Adventure, Cub Scouts are challenged to find the fastest and most effective method of cleaning an oil spill using a variety of materials.



PREPARATION:

- This activity can be done inside or outside or at a camp. One major challenge is the proper disposal of the materials after the activity is done. However, this challenge creates a great opportunity to have a discussion with Cubs about what happens to the oil after it is collected from the water. Choosing vegetable oil makes for easier disposal, but it does not create the dramatic impact that the Cubs could see with used motor oil. Discuss how the materials would have to be disposed of if used motor oil had been spilled.
- Discuss with Cubs if they want to have the option of bringing in extra materials from home, or if they want to limit resources to what is being provided to everyone.

THE ACTIVITY:

- You can begin the activity by asking Cubs Scouts what they know about oil spills and their environmental impacts.
- Some Cubs might use sand or dirt as a sinking agent to force the oil sink down to the bottom of the ocean. Make sure you discuss the impact this method can have on bottom-dwelling animals and plants.
- As an extension, you can provide sand to Cubs to put at the edge of the simulated ocean and try to clean up the beach once the oils has reached the sand.

REVIEW:

- You can suggest a visit to a local agency or organization whose mission is to protect/conserve local bodies of water to expand on the learning from this activity.
- You can also bring up a discussion about oil spills in your local community if it has had any.

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SOME BACKGROUND INFORMATION ON OIL SPILL CLEAN-UPS[1]:

There are a number of response mechanisms for controlling oil spills and minimizing their environmental impact. The selection of the proper methods and their success depends on the type of oil and the conditions at the spill site (including water currents, wind and conditions at sea). You can find some basic information about different categories of clean-up mechanisms by visiting the websites listed at the bottom of this page.

Mechanical containment or recovery equipment includes booms, barriers and skimmers, as well as natural and synthetic sorbent materials. These devices are used to capture the spilled oil and store it safely until there can be a proper disposal.

Chemical and biological methods can be used in conjunction with mechanical containment or recovery. Dispersing and gelling agents are used to keep oil from reaching sensitive habitats and shorelines, and biological agents can be used to assist recovery. Different countries have different and evolving regulations on the types of chemical and biological agents that can be used, and the areas of land and water where they can be used during and after an oil spill.

Physical methods are used to clean up the oil from shorelines. Methods such as wiping with sorbent materials, pressure washing, and raking and bulldozing can be used to assist the natural processes of evaporation, oxidation and biodegradation that are too slow to provide adequate environmental recovery.

Source: "Oil Spill Response Techniques" from US Environmental Protection agency: **www.epa.gov/oem/content/learning/oiltech.htm**

[1] This information is gathered from United States Environmental Protection Agency's website: **www.epa.gov/oem/content/learning/oiltech.htm**

ONLINE RESOURCES:

- "Oil Spill Response Techniques" from US Environmental Protection agency: **www.epa.gov/oem/content/learning/oiltech.htm**
- British Columbia's Marine Oil Spill Information System (OSRIS) website: **www2.gov.bc.ca/gov/topic.page?id=066E966C3AA7432987469A852A76B5F9**
- This activity is based on one of NASA's environmental activities. For other activities visit: **er.jsc.nasa.gov/seh/Ocean_Planet/activities.html**

ACTIVITY	SUGGESTED TIMELINE
Discussing the problem	10 minutes
Testing clean-up techniques	30 minutes
Review (including sharing of the experiences)	30 minutes