STEM | Science | Technology
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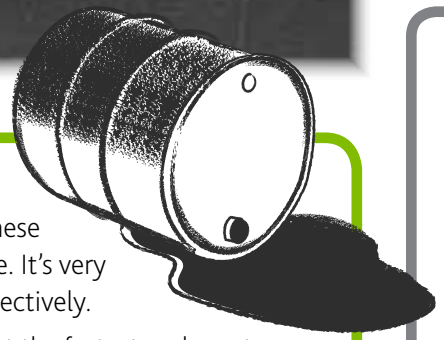
CLEAN UP THE OIL SPILL

BAGHEERA'S HUNTING GROUNDS
Environment



THE ADVENTURE:

Do you know how to clean up an oil spill? When these accidents happen, plants and animals are in trouble. It's very important to be able to clean up oil quickly and effectively.

Explore different ways to clean up oil, and figure out the fastest and most effective way to deal with a spill.

PLAN:

- Figure out groups of 3-4 Cubs. Before starting this Adventure, talk about what each member in the group knows about oil spills and different clean-up methods.
- During the week before the activity, you can look around the house and collect the materials you think might be useful in cleaning up an oil spill. Bring those to the meeting and add them to the set of materials provided.
- Label what you bring from home so that you can claim it after the Adventure!

DO:

Make the oil spill:

- To build the ocean, fill the aluminum tray with 3-5 cm of water. Add 5 drops of oil to your "ocean." This will be your oil spill.

Cleaning the oil spill:

- Your challenge is to clean up the spill. As a group, decide what materials you want to use and how. Compare different methods. Try out three or four different ideas.
- Keep track of how much time it takes you to clean the spill.
- Come up with a system to record the results of your clean-up so that you can compare different methods.
- To test another method, add a few more drops of oil to replace what you cleaned up. Try something new this time. For each method, ask yourself if you were able to clean up all the oil.

Create another oil spill:

- This time, add five drops of detergent directly on the oil. Stir the water to mix the oil and detergent. Record your observations.

Containing the spill:

- One of the first things workers do after an oil spill is try to keep the oil from spreading. Try this yourselves.
- Figure out which material woks better to contain the oil.

Absorption:

- In most cases of oil spill clean-up, materials are used to absorb the oil. This means that the material soaks up the oil. Try this yourselves.

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REVIEW:

As a group, share your experience with the rest of the Pack. Explain which material or strategy worked best and why. When all groups are done, discuss the following questions as a Pack:

- How long did it take you to clean up all the oil? Was it even possible?
- What effect did the detergent have on the oil spill? How do you think this method can safely be used and in what circumstances?
- Did you use containment as one of your strategies? How?
- Did you use absorption in any of your clean-up strategies?
- What do you think should be done with the oil after it is out of the water?
- What other human activities do you know of that have had a negative impact on the environment?
- What elements of STEM were in this activity? Science? Technology? Engineering? Mathematics?
- What did you like about these activities? What did you not like? How would you do them differently?

ONLINE RESOURCES:

- To learn more about oils spills visit: **www.nwf.org/kids/ranger-rick/ranger-rick-on-the-big-oil-spill.aspx**
- This activity is based on one of NASA's oil spill activities. For other activities visit: **er.jsc.nasa.gov/seh/Ocean_Planet/activities.html**

MATERIALS:

- Aluminum tray (at least 10 centimetres deep)
- Vegetable oil
- Kitchen absorbent cloths
- Paper towels
- Cotton balls
- Pieces of nylon net
- Nylon stockings
- Styrofoam
- String
- Spoon
- 2 eye droppers
- Hay
- Liquid detergent
- Materials from home (optional)
- Sand or dirt (optional)
- Newspapers (to cover the tables)
- Bucket for waste
- Rubber gloves
- Clock, watch or cellphone for keeping the time