

A STEM in the Park

Take Home Activity

STEM

in the **PARK**™

Science, Technology, Engineering, and Mathematics

Oil Spill STEM Challenge

What You Need

- Cotton balls
- Container
- Sponge
- Vegetable oil: amount depends on the container, use a 1:4 oil to water ratio
- Plastic spoons
- Dawn dish soap
- Plastic cups: to put soap and cotton balls in
- Cocoa powder: to mix with oil and make it look like crude oil
- Bird feathers



What To Do

Each group will need to clean up “oil” from a simulated oil spill disaster that includes feathers to represent marine life. The learning objective is to increase understanding of an oil spill disaster and environmental consequences. This activity is a great life science challenge that also incorporates engineering and math concepts.

To set the stage for your students, begin with a discussion about the BP Oil Spill disaster in 2010 - the largest accidental ocean oil spill on record. Pictures of the effects on marine plants and animals as a result of the oil spill can help the students connect the real-world application to the challenge.

Continued on back

To complete the challenge, students can be given this mission:

Your engineering company has been tasked with cleaning up a major oil spill disaster. You can only use the provided materials to clean up all the oil from the feathers and from the water. Place all collected oil into the provided container.

Then the activity may resume in a few different ways, depending on the constraints of your class. You may set a time limit to allow the students to clean up the oil spill and feathers as much as possible. Then discuss the challenges faced with the different methods and materials used to try to eliminate the oil. Another option is to make this challenge a competition and say that the challenge is only successful if a specific amount (say 5 inches in a cup) of oil is collected.

Because the oil is separated from the water, qualitative comparisons may be observed and measured then used to complete math problems related to this activity. Math extension problems are included in a comprehensive product of this oil spill activity found here: <https://www.teacherspayteachers.com/Product/STEM-Oil-Spill-Challenge-Earth-Day-Activity-Volume-Measurement-2451565>

The Science

Teaching kids awareness of human impact on the environment and inspiring them to be a part of the solution is vital to our future on this planet. For this reason, we conducted a fun, hands-on activity that simulates an oil spill and challenges kids of all ages to clean up the simulated disaster and its effect on wildlife.

This activity is brought to you by Environmental Service Club

