

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# Clean Up An Oil Spill

Scientists are concerned that the development of an oil pipeline could threaten sea wolves in British Columbia, Canada. An oil spill could happen if part of the pipeline leaks or breaks. The spilled oil can devastate the environment by covering organisms in oil and exposing them to toxic chemicals. If a spill happens, officials try to remove the oil. But it is difficult and costly to clean it up. Try this activity to test different methods of cleaning up an oil spill.

**PREDICT:** What type of material will absorb the most oil from water?

**MATERIALS:** large plastic dishwashing tub • water • 5 tablespoons vegetable oil • red food coloring • small plastic bowl • spoon • clear plastic cup • clean-up materials: plastic spoon, small squares of paper and cardboard, cotton balls, etc. • dishwashing detergent

**PROCEDURE:**

1. Fill a large container with water. The water should be at least 5 cm (2 in.) deep.
2. In a bowl, mix 5 tablespoons of vegetable oil with four drops of food coloring. The food coloring represents toxic chemicals found in oil.
3. Gently pour the oil mixture onto the top of the water. Observe what happens.
4. Imagine you've been asked to clean up the oil spill. Your goal is to remove as much oil as possible and keep it away from the "land" on the edges of the container.
5. First, using a spoon, try scooping out the oil, from the top of the water. Pour what you scoop out into a clear plastic cup. How much of what you take out is oil? How much is water? Observe what happens to the oil and water in the container as you scoop. Why might this method be impractical in a real oil spill?
6. Next, test the effectiveness of the other clean-up materials in removing the oil from the water or keeping it away from land. Which materials were most effective?
7. To try to break up oil spills, officials often put detergent-like chemicals called dispersants into the water. Add a few drops of dishwashing detergent to the container. Observe what happens.

**→ DRAW CONCLUSIONS:**

1. What method would you choose if you were in charge? Support with experiment results.
2. What effect do dispersants have on oil in water? Why might this be helpful in reducing the impact of a spill? Could it be harmful?
3. What happened to the "chemicals" in the oil as you tried to clean it up? What impact might that have on the environment?