

Oil Spill Clean Up!

Oil spills occur when waterways and oceans are polluted by an escape of oil. Accidental pollutions can happen from breaks in oil rigs and pipelines, or by runoff from cars, factories, and farms. When oil ends up in our ocean ecosystems, it creates a slick surface on the water that is difficult to clean. This negatively impacts water health and the plants and animals that live there. Scientists are learning new ways to clean oil-damaged ecosystems and organisms and keep our waterways safe. Investigate the ways that scientists clean up oil spills in the ocean!

Supplies

- 3 cups half-filled with water
- Vegetable oil
- Black food dye (optional)
- Dawn dish soap
- Small squirt bottle
- Spoon
- Cotton balls
- Tweezers
- Gloves
- Trash can or waste bin

Can you use 3 methods to clean up the oil spills?

Challenge

1. Set up: Fill 3 cups half-way with water. If you wish to dye the vegetable oil, mix in a few drops of food dye to the oil. Then, put a few spoonfuls of oil in each cup on top of the water. Each cup will be one sample "ocean". This activity can get messy - gloves help keep your hands clean!
2. The first technique is called *boom and skimmer*, where a device scoops the oil off the surface of the water. In the first cup, try to scoop out the oil from the water and place in your waste bin.
3. The second technique is using an *absorber*. This technique absorbs the oil from the water. Using the tweezers, try to absorb the oil with a cotton ball from the second cup.
4. The last technique is a *dispersant*. A dispersant breaks apart the bonds of the oil and spreads it out over a large surface. Mix dish soap and a little bit of water in a squirt bottle to make a dispersant solution. Squirt this solution into the third cup to try to disperse the oil.

Questions

1. How does the water react with the oil?
2. How effective are each of these techniques?
3. What are the pros/cons of each technique?

4. How can we prevent oil spills?
5. Can you think of a new method for cleaning up oil spills?