Self-Contained Gulf Oil Spill Kit

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Note Changes: Since posting this, I learned that oily sand has to be cleaned up immediately or it turns into concrete. I no longer use sand. Human hair is the best oil soaker-upper I've ever seen. Well worth the effort of getting some at your local salon.

I decided to make my oil spill cleanup exercise a bit more realistic with the addition of a map of the Gulf of Mexico and some sand. I soon learned that cleaning up after the oil spill cleanup is a task that requires some planning. As I am doing two oil spills in a row next month, I've finally designed a compact, self-contained kit. One kit contains all materials for four oil spills, enough for 20 students.

Work from the outside in:

1. Get a plastic storage container with a lid that seals. Personally, I use boxes from Target that are a bit smaller than file boxes, with curved lids that nest when they stack.
2. Get four disposable aluminum trays that stack neatly inside your box. Personally, I use a "utility/stuffing" pan from Harris Teeter.
3. Measure the bottom of your tray carefully and subtract ¾" from each dimension. Now print four maps of the Gulf of Mexico to fit the new size. Get them laminated, and they should lie flat on the bottom of your tray (including ¼" of lamination around all the edges). I don't remember where I found the map below, but I don't think it was copyrighted.

Assemble the rest of the kit. Each box contains four sets of:

1. Oil: a mixture of vegetable oil and cocoa powder, about 2 oz/ spill. I invested in some fancy plastic bottles, 'cause the soda bottles leaked a bit.
2. Critters: plastic fish, feathers, pompoms to represent mammals. Remember that feathers and pompoms will probably be destroyed, but fish can be washed.
3. Materials that trap oil
    a. String for oil booms
    b. Cellophane or aluminum foil
    c. Nylon from stockings
4. Materials that soak up oil
    a. Cotton balls and just a few paper towels
    b. Hay straw if you can get it – motor oil sticks to the straw
    c. Human hair – this stuff is amazing
5. Tools that move oil around
    a. Pipettes, straws
    b. Spoons, popsicle sticks
6. Containers for used stuff: paper and plastic cups
7. A little dish detergent – I don't hand it out, but it's an option

In Class Procedure

Don't hand out the oil until the students are ready to clean. Depending on the age group, you may want to hand out the items for each stage sequentially.

1. Build your environment. Lay your map flat in the bottom of your tray, and identify local landmarks. Pour a shallow layer of water in the tray.

2. Put out your animals. Fish in the water, mammals and birds on land. Will the animals stay put? Do you want to have an animal cleanup station ready before the spill?

3. Examine the different items in your cleanup kit – some are good for trapping oil, some for soaking it up, and some for moving around. How would you put these things to best use? Note: This is something the kids don't do without guidance. Fourth graders tie the string to the nylon and try to soak up the spill; high school students unwrap cotton balls and lay them on the beach as barriers. Definitely talk with them about the materials and how best to use them.

4. Develop your oil spill response plan. You will need to separate the oil from the water -– draining the gulf won't help. Your job is to contain the oil and remove it, before it hits the beach. You should also try to protect your animals. While you are trying to clean up, the wind may be blowing the oil onshore. One of your team can simulate the wind by blowing through a straw.

5. Spill your oil and start the cleanup. Teachers, you may wish to wander around and observe or comment. Drop a feather into each oil spill, saying "birds don't stay where you put them"

6. Follow up discussions – what worked, what didn't? Relate this exercise to what's happening in the news.

    a. A nice movie of the oil spill spreading http://www.nytimes.com/interactive/2010/05/01/us/20100501-oil-spill-tracker.html?hp
    b. Most oil in the ocean comes from land, not spills http://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/peril_oil_pollution.html

7. After the exercise, just pile up all the oil, water and junk in your box. Clean it up when you get home.


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