Save the Elizabeth River from Pollution!

Sometimes, oil from cars, trucks and industry located along the Elizabeth River runs into the water. When this happens, the oil congregates on the surface of the water. Waves and currents in the water mixes some of the oil into the water, and harms plant and animal life that live on the surface such as sea birds and seaweed, or that need to come to the surface to breathe such as whales, seals and sea turtles. Over time, the water and oil mix somewhat, and some of the oil (which is heavier than the cooking oil we are using) will sink to the bottom of the river, harming the flounders, sea urchins, lobsters, crabs and other bottom dwellers. The Port Authority is voluntarily cleaning up the river through their Mitigation Plan and ongoing clean-up activities.

First we are going to demonstrate, and you all will help, what happens if oil spills ON the terminal, and what we do to prevent it from entering the water. Next, you all will do an experiment that simulates an oil spill IN the river and how it can be cleaned up.

"River" Materials	Cleaning Materials
Large pan filled with water	Paper Towels
Sand & shells	Panty Hose
Oil	Dish soap diluted in spray bottle
Feathers	Popsicle Sticks (use to move the oil around)
	Sand
	Kitty Litter
	Peat Moss
	Fibrous Cloth

Your mission: To clean up an oil spill before it pollutes the river, marine life, and shoreline.

Steps:

1. Add sand and shells to a large pan of water (pile the sand at one end) to simulate a river with a sandy shoreline.
2. Examine a feather. Oiliness on the feather keeps the feathers from becoming waterlogged. Notice how it can fluff up after it's handled.
3. Drop the feather into a pan of clean water. Does it float? Shake it off.
4. Allow it to dry completely. Does it still fluff up?
5. Add cooking oil to the "river" to simulate a spill.
6. Drop a feather into the pan of water and oil. What happens to it?
7. Try to clean it up both with and without dish detergent.
8. Allow the feather to dry naturally. Does it still fluff up?
9. Drop it into a pan of water. Does it still float as well as it did before?
10. These tests indicate that the feather has lost its ability to insulate, and resist water.
11. Test each material and see which one absorbs the oil the best.

12. Which material do you think will absorb the oil the best?
13. If a material absorbs the oil, take note of that, add more oil, and test another material.
14. Rate each material's effectiveness on the chart below.

Best Strategy: **Contain, then cleanup.**

Sediment remediation – with sand, fibrous material, and gravel.
Wetland Creation
Oyster Reef Creation