

Main Street STORM DRAIN POLLUTION ACTIVITY

Join Inspector Hector, the soft-boiled health inspector, and his cross-eyed Siamese cat Ajax, who has a tongue rougher than cheap bathroom cleanser, in tracing the mysterious source of pollution on Main Street.

Main Street Storm Drain Pollution

Sunlight filtered through tall trees and lit the shallow pools of the small stream at the bottom of the steep embankment. Only the constant hiss of car tires on the highway far above Inspector Hector's head reminded him that he was still in the city. As the Inspector strolled along in the grassy shadows that were fresh from yesterday's light rain, Ajax followed happily, with his tail straight up and waving like a flag. The adventuresome cat jumped from rock to rock to rock as they followed the stream, stalking the frogs and small freshwater fish that flitted into view in the clear water. It was peaceful and serene even when they passed the dark mouths of the huge concrete pipes that led to the storm drain system of the city.

Ahead of them, the stream flowed toward the river and the highway curved so they couldn't see what wonderful surprises waited around the bend. As they walked along, they became aware of a buzzing sound that became louder than the traffic above them. Ajax's ears went back and his tail stood straight out as he caught a whiff of an odor so foul that it made his whiskers curl.

The inspector and his trusty sidekick stopped and stood as still as statues when the Main Street storm drain came into view. A thick cloud of fat, black, buzzing flies repeatedly rose into the air and then landed on rotting, festering fish and a tower of trash that lined the banks of the stream below the pipe. The inky, black opening oozed a steady trickle of oily, iridescent slime and a warm, tangy breeze blew past them.

This activity should be done with adult supervision.



You'll need household items and a simple way to test for sodium chloride (not chlorine). Sodium chloride tests are commonly done for saltwater pools and spas.

Materials Needed:

Test strips or a test kit that tests for Sodium Chloride, about 1500 -5000 ppm range

Small cups or containers, 10

Distilled water, 2 quarts

Salt, 1 ½ teaspoons [Kosher salt will make a less cloudy solution than table salt]

Follow instructions and safety precautions for all materials. Consult the manufacturer's web site for Safety Data Sheets.

Suggested test strip:
LaMotte Sodium Chloride Test Strips, 1500 -5000 ppm [Code 2998]

Ajax broke the spell as he forcefully shook his hind leg to fling off a soggy label that was stuck to his foot. It appeared that a raging wall of water had gushed out of the storm drain towards the stream, sweeping along pollution and trash that lay in its path. Ajax and the Inspector had to figure out what had happened! They raced back to the scooter to get the map of the storm drain system and the test kit. If they didn't put an end to this fishy fiasco, the entire river that was downstream could be in danger if it happened again!



From looking at the map, the Inspector and Ajax saw there were two storm drain grates where the water from Main Street emptied into the pipe, deep in the underbelly of the city, then flowed to the stream. There were two businesses near the grates. One was Pop's Pickle Emporium, an ancient pickle factory that had been making its famous super, salty pickles for over a century. Karen's Computerized Car Wash was next door. Karen was proud of her new car wash center that used the latest technology to get cars squeaky clean and recycled the water, too.

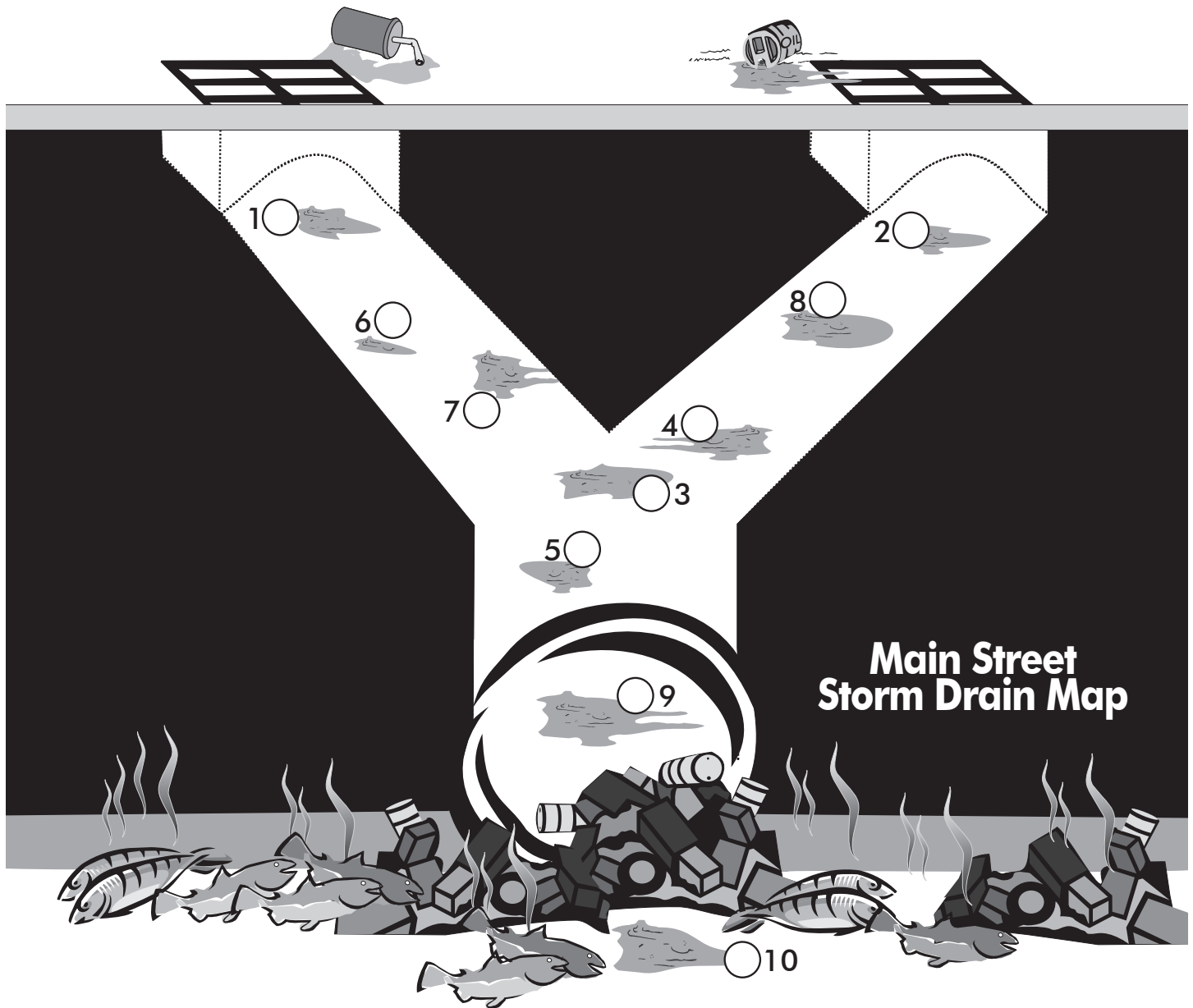
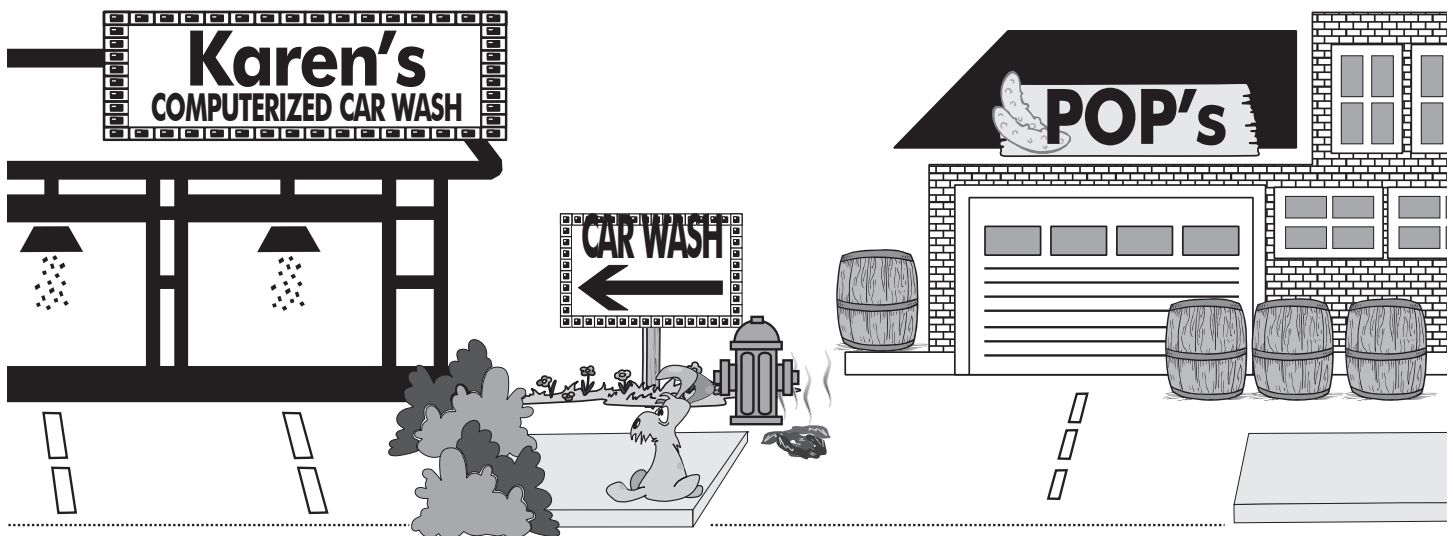
The flood of water that crashed through the storm drain had to have come from either one of these two places. There had been too much water to come from the recent rainfall. Was it a gherkin gusher or a car wash wave that swamped the stream? Inspector Hector knew that a simple test of the puddles in the storm drain could tell the tale. If the water that was left in the storm drain was salty, the wall of water had come from Pop's Pickle Emporium. If the water in the storm drain was not salty, the water that had drenched the storm drain and strangled the stream had come from a huge leak in Karen's Computerized Car Wash.

The Answer is Plain....It's Down the Drain! Experiment

Procedure

1. Dissolve 1 ½ teaspoons of salt in 1 quart of distilled water.	2. Label the cups or containers #1 through #10.	3. Fill cups #1, #6 and # 7 with distilled water. Fill the rest of the cups with the salt solution.
4. Use the test strips or the test kit to test the samples for salt. Start with sample #1. If the sample was salty put a + in the circle on the Main Street Storm Drain Map. If the sample was not salty put a - in the circle. Test the rest of the samples in order from #2 through #10.	5. Connect the "+"s on the Main Street Storm Drain Map.	6. Where does the trail of "+"s lead? Did the water come from Pop's or Karen's?





The Main Street Storm Drain Pollution Solution

Armed with the test results, Inspector Hector and Ajax decided it was time to pay a visit to Pop and find out what had happened. It turned out that Wacky Wally was driving the forklift when it went out of control and ran into a giant pickle vat. The old wood had collapsed like a hippo stomping on a paper cup and salty brine had surged everywhere...mostly out the loading dock door and into the storm drain.

The Inspector explained to Pop that he should have reported the spill to the City Spill Team so that harm to the environment from the salty water could have been prevented. Pop agreed to ban Wacky Wally from driving the forklift and start spill training for his employees so that a disaster like this could never happen again. Pop was also going to talk to Karen about helping him start a storm drain stenciling and education project with the neighborhood kids. They could all troop around the neighborhood and paint a warning by each storm drain to remind everyone that anything that washes down a storm drain goes into the local river. Pop wanted the whole city to know how to prevent storm drain pollution! Inspector Hector and Ajax left Pop's Pickle Emporium with a feeling of satisfaction from a job well done AND a super-sized jar of super salty pickles!



What is Storm Drain Pollution?

Anything that makes its way into a storm drain could pollute aquatic habitats and harm plants and animals that live there. This means that when it rains any waste or pollution on the sidewalks, streets or parking lots is washed into the storm drain system. Sometimes, people dump bad stuff, like used car oil and old paint, into storm drains instead of recycling it.

Go to www.lamotte.com for Environmental Education and Home School products.



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