

Searching Out Storm Drains

Background:

In some old cities, the sewage system and the storm drain system are connected and together are called a combined sewer system. During heavy rains, the old systems are overwhelmed and usually both the storm water and sewage do not receive adequate treatment and are discharged into a local waterway.

Other cities have a sewer system made up of two different networks of pipes. One network handles sewage coming from sources such as kitchen sinks, toilets, and washing machines. These pipes carry waste materials to a larger network of pipes leading to a sewage treatment plant where sewage is separated into sludge (solid waste material) and water. The sludge is compacted then landfilled, incinerated, or marketed as an environmentally

beneficial product, while the water is discharged into a river or other nearby waterway free of any solid waste.

The other network of street gutters and pipes carry runoff storm water from streets to nearby bodies of water such as streams, rivers, and oceans. There is generally no screening process associated with this system, so litter that is carried into the pipes with storm water will also end up in the receiving body of water. These pipes are obviously designed to carry storm water runoff from one point to another and are not meant to transport street litter and other types of debris. Storm drains, then, are a source of water pollution to the extent that people use them as receptacles for inappropriate waste.



Grade: K-3

Objectives: Students will be able to

1. Understand that storm drains are connected to water systems and can become a significant source of marine debris and
2. Identify storm drains around their school and/or community

Time Needed to Complete: 50 minutes

Materials Needed:

- Book All the Way to the Ocean by Joel Harper
- "Storm Drains as a Source of Plastic Pollution" diagram (see worksheets)



Procedure:

1. Take your class on a walk around school. Identify and locate the storm drains with your students.
2. Have students give their own descriptions of what storm drains are designed to do. Pose questions that will help them formulate ideas on the function of storm drains and help them understand the connection that exists between storm drains and streams, rivers, etc.
3. Is there litter near the storm drain that you and your students have located? Can you look into the drain and see any trash? Have your students consider how the trash got there and what would happen to it over time, especially if it rained.
4. Back in the classroom, read the book All the Way to the Ocean by Joel Harper. Then, hand out copies of the storm drain diagram for your students to color.

Assessment:

Have your students diagram the path of litter from the street into the storm drain and eventually to a body of water.

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Coloring Sheet

