

ROBERSON MUSEUM AND SCIENCE CENTER

Pre-Visit Confluence: Non-point Source Pollution

Grade Level: 7 through 12

New York State Standards: M S & T 1, 4, & 7

Pennsylvania State Standards: S & T 4.3 & 4.7

Objectives: Students will demonstrate what occurs during a rainfall event by examining what collects in an average storm drain. Students will also learn how water from the storm drain can impact water quality and the aquatic environment of local rivers, streams and bays.

Materials:

- Aquarium
- Rectangular Water Box
- Watering Can
- Spray Bottle
- “Pollutants”
- Green Food Coloring (pesticides/fertilizers)
- Vegetable Oil (motor oil)
- Soil/Sand/Pebbles (erosion)
- Grass Clippings (or Shredded Paper) and Twigs
- Cafeteria Waste and Trash
- “Waterway” (see step 1 of procedure for clarification)

Procedure:

1. Before class begins fill an aquarium half-way with water and place it where it can be easily seen by your students. Cut a hole in the bottom of a box and place the box on top of the aquarium. The box represents the storm drain and the aquarium represents the waterway that the storm water mixes into after entering the storm drain.

2 Begin your class discussion with an introduction to storm drains and their purposes. Where does the water go? Answer: into the sewer. Have students list all things that enter a storm drain during a rain storm. Answers may vary.

3. Assign a group to each pollutant; pesticides/fertilizers, motor oil, soil/sand/pebbles, grass clippings, and trash. Begin a class discussion concerning each pollutant. Have each group place their pollutant into the storm drain and use the watering can to simulate rain washing away the pollutant into the waterway. As each group experiments with their pollutant, discuss the usage and necessity of each.

4. Follow up questions: How does the pollutant damage the environment? How can this type of pollution be stopped? What types of pollution are natural? How can we remove pollution from the water? What could be done to stop pollution from entering the drains? Answers may Vary

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