Stormwater Introduction

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Urban Stormwater Pollution













Combined Sewer System





<u>BMP</u> Best Management Practice









Scientific Method

- Hypothesis What do you think is going to happen based on what you know about stormwater?
- Methods Stormwater Game
- Results Graph data collected from Stormwater game
- Conclusions What do the results mean?

Do Now

- Choose a Hypothesis. Which method do you think is best for controlling wet weather pollution?
- Get a stormwater card. Play game.



Results – Stormwater Game

Trial 1 0 BMPs		Trial 2 1 BMP		Trial 3 All BMPs	
١	Nater	Water	BMP	Water	BMP
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Total					

Stormwater "Flow" Simulation: Instructions

This simulation will be run as a scientific experiment. Before the simulation begins, students will be prompted to write a hypothesis about the best way to control stormwater pollution. The simulation will serve as the experiment, which will take place in three trials. After all three trials have been completed, the class will analyze their results and draw conclusions. Students will be divided into 3 groups: Water, Pollution, and Best Management Practices (BMPs). The role of each group is described below.

- Trial 1: ½ of the students will represent water and ½ the students will represent pollution
- <u>Trial 2:</u> 1 student from the water group and 1 student from the pollutant group will be selected to become BMPs- all other students will retain their original roles.
- <u>Trial 3:</u> 1/3 of the students will represent water, 1/3 will represent pollution, and 1/3 will represent BMPs.

Water:

Students representing rain water will wear signs that say "water" and/or have a picture of raindrops on them. They will depict stormwater runoff by walking through the line of "pollutants". As they walk through, students depicting pollution will be placing sticky notes on them- the water is not to fight back in any way. At the end of each trial every student depicting water will count and record the total amount of sticky notes (pollution) they have accumulated.

Best Management Practices:

Students representing best management practices (BMPs)will wear signs with the names of different BMPs on them (example: street sweeping, green roof, roadside swale, etc.). These students will stand among the pollutants, but will remove sticky notes from the students depicting water as they walk by. They will need to hold on to the sticky notes they collect in order to count and record the total "pollutants removed" when the trial has ended.

Results/ Conclusions:

After each trial, the water and BMP groups will total the number of sticky notes they have either accumulated or collected. This works best if done on a white board or chalkboard in the front of the classroom so everyone can view the results. After round 3- the class will discuss , and if time permits, graph their results. They should notice the trend that at more BMPs are added, the level of "pollution" goes down.



Pollution:

Students representing stormwater pollutants will wear signs with the names of different stormwater pollutants on them (example: dirt, pesticides, oil. etc.). These students will be given 10-20 sticky notes to use as "pollution". They will be arranged in two stationary lines, and "pollute" the students depicting water as they walk by.

