Watershed Lab

By building a simple watershed with paper and markers, you will understand how pollution accumulates in our water sources, especially from pesticides used in agriculture.

Objectives
Students will:
1. understand what constitutes a watershed.
2. understand how pollution accumulates in our water sources, especially from pesticides used in agriculture

Materials
- 1 page of white typing paper per team
- 1 page of card stock per team
- permanent markers of multiple colors; washable orange marker
- tape
- spray bottle
- water

Introduction
You will create watersheds using paper and markers. Precipitation will occur and marked areas with pesticides/pollutants will drain down into rivers, lakes, and streams ending up in the ocean.

Procedure
It can be messy. You must wear aprons!

1. Crumple a piece of white paper lightly. This will look like a topographical map.

2. Use permanent markers to outline and define various areas in the watersheds using appropriate colors such as:
   Black or brown—mountains
   Green—agricultural areas
   Blue—rivers, lakes, streams, ocean
   Gray—urban areas and buildings

3. Determine how many watersheds are in their model.

4. Using a washable orange marker, "spray" pesticides on the crop areas by making lots of dots and streaks over the green agricultural areas

5. Tape down the four corners of the crinkled paper onto a larger piece of card stock. To give the watersheds model a variety of elevations, the paper should not be taped completely flat!

6. Now it will rain! The "Wrath of Nature" is back ☺!

7. Observe the movement of pesticides/pollution (orange water) from the fields to the streams, rivers, lakes and ocean. Write your observations in your science notebook.

Answer the following questions
1. How did the shape and elevation of your watershed model affect the flow of water? Where did the water travel fastest or slowest?
2. What happened to the orange pesticide marker when it rained? (Where did it end up and why?)

3. How does this model demonstrate the way pollution moves in a real watershed? Think about the online watershed simulation as well.
4. Why it is important to understand how watersheds work when making decisions about land use in agriculture or urban development.
5. How might increasing population in urban areas affect the amount and type of pollution entering a water shed?
6. As population grows, what changes might happen to agriculture land use, and how could this impact watershed health?