

Model Watershed Activity

Objective: Your group will construct a model of a watershed. Through observations of your watershed, you will be able to predict the flow of water in other groups' model watersheds.

Vocabulary:

- Watershed:

Procedure:

In this portion of the activity, you'll use these materials to make a very simple model of a portion of Earth's surface. You'll spray model rain on your landscape and watch how it flows so you can identify watersheds and drainage divides that separate them.

1. Crumble several pieces of newspaper into balls and rolls of different sizes and shapes. Place them into your tray. Use tape to keep them in place.
2. Lay your plastic bag out flat on a table top or the floor and smooth out the wrinkles.
3. Place one end of the tray on a textbook (or two), then cover the entire tray and its contents with the plastic. Gently press the plastic down around the crumpled paper balls. Leave the excess plastic around the outside of the tray to protect the area from getting wet.
4. The plastic cover represents Earth's surface. The lumps represent mountains and hills, and the areas between them represent valleys. Use your imagination to visualize your model as a portion of Earth's surface.
5. Fill your spray bottle with water and add a few drops of blue food coloring to make the water easy to see. Spray just enough rain over your model to see how the water interacts with your model landscape.
6. Look for these features in your model. (see image, right, for a sample of how the model will look)
 - Streams or Rivers—linear flows of water running downhill;
 - Ponds or Lakes—areas where water pools up in low areas; and
 - Drainage divides—imaginary lines along which the "rain" goes to one side or another.
7. Use paper towels to absorb the water from your model. Adjust the paper balls and plastic to make your landscape as realistic as you can, then spray it with model rain again.
8. When you think you can predict the locations of streams and drainage divides on a model landscape, wipe your plastic dry and set up the model again. Use markers to draw your predictions for the locations of streams and divides directly on the plastic.
9. Pair up with another lab group and test each groups' predictions about the location of their streams and divides. Discuss the results and your ideas for improving the model.

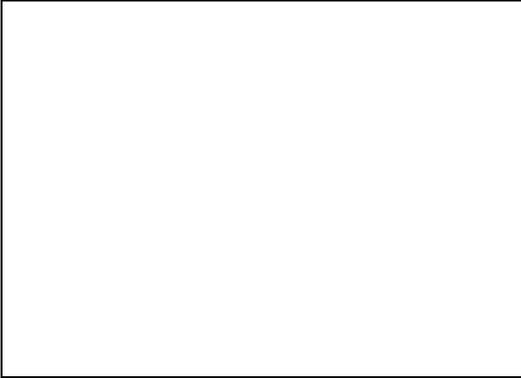


Conclusion/Analysis:

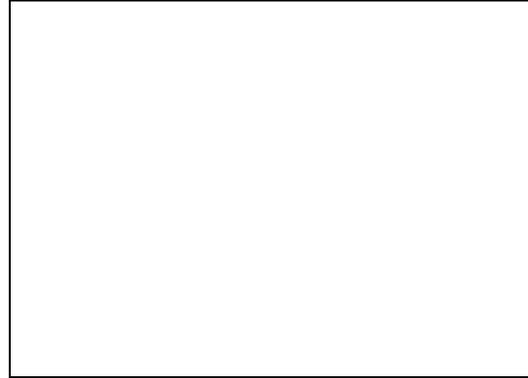
1. What does the area where you sprayed the water in your model represent?
2. What patterns did you notice that were present in all of the groups' models (i.e. How is the water flowing? Do certain "landforms" have a consistent impact on the flow of water?)?
3. Do you think these patterns also exist in nature?
4. Can you think of any situation in which these patterns would not exist?

Observations: Draw your model and each of the other groups' models. Use BLUE to predict where rivers will flow and RED to predict where lakes/ponds will form. Then, spray with water to see where they actually form. Note in the box whether or not your predictions were correct.

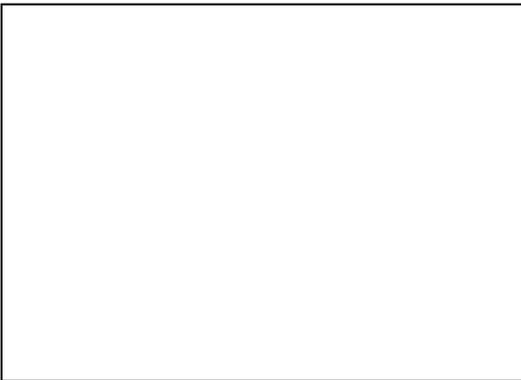
Our Model:



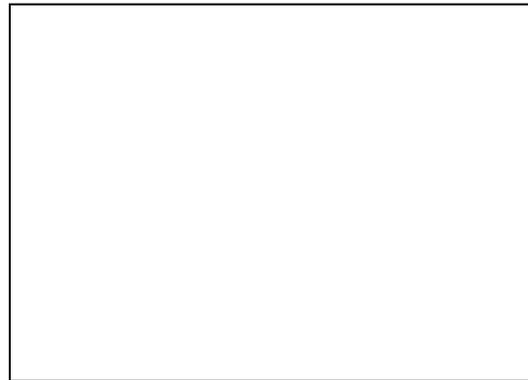
Other Group #1:



Other Group #2:



Other Group #3:



Other Group #4:



Other Group #5:



Other Group #6:



Other Group #7:

