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Build Your Own Watershed

Educational Objectives:

Students will observe and understand 1) the landscape of Maryland, 2) how we use models, and 3) how water moves downhill. They will learn the definition of a **watershed**.

Materials:

1 large plastic cement tub
Many assorted plastic bottles, beakers, and cups
Plastic trash bag cut and spread open
Spray bottle of water + blue food coloring
Cocoa powder

Lesson Instructions:

1. Explain to the students that they will be learning about “watersheds,” the area of land that collects and delivers the water to a specific body of water (they can think of it as the land that “sheds” water). Today they will be learning how watersheds work and how the shape of the land helps to deliver the water to a body of water.
2. As a group they will be making a model of a watershed – what is a model? We use models to describe things that are otherwise too big (or small) to see.
3. Explain that on one side of Maryland there are mountains, and on the other side there are not. Tell students they will be stacking plastic beakers and cups to form Maryland’s landscape.
4. Pass materials out to students and, one at a time, have them come up and add to the mountain, eventually building an irregular mound with peaks, ridges, and valleys. Once all cups have been used, drape a plastic sheet over the containers to make the final landscape.
5. Talk with kids about the model: What shape is it? Where are the mountains or hills? Etc.
6. Explain that we will spray water on the model (what does the water represent in nature?) and see what happens. Ask students to make predictions:
 - a. If we spray water on the mountain peaks, what will happen to the water?
 - b. Where do you think rivers and lakes might form?
7. Then have the kids take turns spraying the landscape with the spray bottle. What happens as they add water to the system? Which direction does the water flow?
8. Show the poster of the Chesapeake Bay watershed and point out the watershed boundary. Look how big it is! Water from **six** states flows into the Chesapeake Bay.

9. Ask students what is the land made of / what is on top of it? Dirt! Add cocoa powder to the top of the mountain to represent dirt and spray more water to show how the water can carry sediment with it. This is **erosion**!

Reflection:

Discuss how water moves over land and how the water on land eventually makes it into the Chesapeake Bay. Go over the definition of a watershed. You can extend this lesson by asking students to think about what might happen if there was pollution on the land (eg. oil, pesticides) – where does it go? A variety of other materials (sprinkles, bits of paper, vegetable oil, etc.) can signify pollutants for another round of rain on the model.