



Watershed Models

Background Info:

A watershed is an area of land where water flows to a common point. Watersheds are like nesting dolls in that many can fit into one, depending on the common point where all the water ends up. For example, Grass River is in the Elk River/Chain of Lakes (ERCOL) watershed, along with all the other creeks, drainages, and rivers that flow eventually to the Elk River. But if you “zoom out” on the landscape, the ERCOL watershed is part of the Grand Traverse Bay watershed, which also includes the Boardman River and the various creeks that flow into the Grand Traverse Bay. And the Grand Traverse Bay watershed is part of the Lake Michigan watershed, which is part of the Great Lakes watershed, and on and on.

Of course, how water flows across a landscape has everything to do with topography, because, due to gravity, water always flows downhill. And how humans site different aspects of civilization – farms, factories, cities, roads, wilderness areas, etc. – has huge impacts on the quality of water that flows through a watershed. To see how this works, try the following activity:

Crumpled Paper Watershed Activity:

Materials:

- One piece of paper per kid
- Up to 8 different colors of washable markers
- Spray bottle filled with water

Steps:

- Explain that you are going to create your own watersheds today!
- Teach kids what a watershed is using this movement song:
 - A watershed** (put hands in a mountain/house shape above your head)
 - is an area of land** (move flat hands around in circles, like on a table)
 - where water flows** (move hands like miming how fish swim)
 - to a common point** (hands end in a “pizza slice” point in front of you)
- Begin the creation of your personal watersheds: Let each kid draw a city on their paper, using a different color of marker for each aspect of the city (i.e., green for farmland, black for roads, blue for factories, orange for neighborhoods, etc.). Reserve one color only for later use.
- Then the fun part: have each kid crumple up their paper city into a ball! Then carefully unfold the paper until it’s almost flat.
- Let each kid use a washable marker in the reserved color to trace the “ridgelines” the crumples created.

GRASS RIVER NATURAL AREA

- Take a minute to admire each kid's personal watershed, then mist the paper using the spray bottle to simulate a rainstorm. This should show how water would flow through each kid's watershed, and how it might pick up pollutants as it travels.
- Ask the kids about their personal watersheds:
 - How did your colors move once the rainstorm came?
 - What might orange from neighborhoods or blue from factories represent in terms of pollution?
 - Do you think you could re-design your city to minimize the effects of pollution in relatively natural areas like wilderness areas or parks? How?

