

Tributary Modeling

by Jenny Wilderman

Objective: This activity is designed to give students a general idea of which materials and pollutants are coming into the Chesapeake Bay and their origins.

Materials: Map of the Chesapeake Bay. Assorted containers. Plastic bag or sheet.

Ideally, this activity utilizes a satellite map of the Chesapeake Bay with a key indicating urban areas, wetlands, farmland, etc. It could also be done using a standard outline map of the Bay with students researching the different environments.

Each student begins the activity by selecting a tributary of the Bay and researching what sort of environment (wetlands, urban development, agriculture) borders that body of water. Students should attempt to determine the general water quality (ie. presence of sewage, nutrients, pesticides, etc.) of their tributary.

After completing their research, each student chooses a glass or plastic container proportional in size to the tributary she/he researched. (The Susquehanna River would have the largest container). Students fill up their containers with water and any other substances that are found in their tributary (dirt, fertilizer, oil, etc). Actual materials can be used where appropriate, and food coloring can be substituted for more hazardous materials.

When each student has filled up his/her container, the class comes together around a plastic sheet or bag. The plastic should be either clear or white. Students arrange themselves around the plastic sheet to mimic the geographical layout of the Chesapeake Bay. The student representing the Susquehanna would be at the top or north side of the plastic, and the student representing the James river would be at the bottom or southwest side.

Two cups of salt water are poured onto the plastic to represent the two tides coming into the Bay each day. One by one, each student pours their container onto the plastic while explaining what sorts of things are found in their tributary. The result of this activity is a symbolic representation of what's in the Bay and its sources. Follow up with an exploration of how these substances impact life in the Chesapeake. How, why, should, or can they be controlled?

