

Lab 10 Demonstration

This entire demonstration should only take 10-15 minutes. Set up time only takes 5 minutes before lab starts. I'd recommend building the features yourself to save time.

Demonstration addresses questions asked in **Activities #2, 4, 6, and 9**. Tell them to keep these in mind and have their book with them.

- 1) Start by building high topography near the stream source, do not build it past the bend in the table so as to keep sediment away from the pump system (see figure).
- 2) Level out the sediment until you get about 2.5 feet from the drain in the table. Keep the area from here to the drain completely clear so a delta may form during the demonstration.
- 3) Dig out a to-be stream about 2" wide; let the bare metal show at the bottom along the entire course (so it can fill with sediment during the demonstration; sediment filling relates to **Activity #4**). Make a couple of exaggerated meanders in the stream. Stick some trees in a floodplain. In the cut banks, put a couple small animal figures to represent human waste products (if they should actually get entrained in the stream).
- 4) NOTE: Check water in the drums. Make sure the pump does not go dry! Plug in the stream table pump.
- 5) Start the stream flow by turning the dial. It does not need to be fast, in fact you can keep the discharge at 0 mL/s. Just give a moderate to slow flow of water, enough to entrain sediment on its path down the table. Do not let a student control the water flow as this is an expensive piece of equipment. Letting them build topography is okay if you want. During the demonstration, if it is taking too long for the water to flow through, help it along by clearing sediment.
- 6) Discuss the meaning of the following, and tell them the activities it relates to. Letters correspond to the figure:
 - A. High topography at the start of the table represents the Rocky Mts, the sediment source for much of the sediment in the Gulf of Mexico today (**Activity #4/9**).
 - B. Moderate level topography.
 - C. Low level topography / coastline.
 - D. Cut bank in stream channel. Have them observe how this cuts away and migrates the stream channel through time (**Activity #2**).
 - E. Floodplain.
 - F. Delta (**Activity #6**).Water may begin to seep out of the coastline. If this occurs, use this to describe how water permeates into land surrounding rivers and, hence, polluted stream water affects more than the river itself and vice versa. I.e., pissing on a floodplain eventually gets in the river, and pissing in the river eventually gets in the floodplain sediment.

At the end of the demonstration, unplug the stream table. Allow the collected water to catch in the drum by pushing the drain down just enough to let a moderate amount of water flow in. Sediment that formed the delta should be cleared and pushed back onto the other sediments. The sediments will continue to drain during the course of the lab; just be sure to keep draining the water.