
Wetlands Activity Four:
“Rolling Down the River: An Obstacle Course”

Academic Question: How does freshwater travel to the Gulf of Mexico?

Objectives:

- To learn how freshwater travels through Texas waterways to the Gulf of Mexico
- To introduce students to concepts of sedimentation and bed load

Materials:

- One large truck inner tube
- Six eight-foot landscape timbers
- 16 two foot 2 x 4's
- Bag of small rocks
- Several buckets
- Bag of sea shells
- Six hula hoops
- Rope
- Sawhorse
- Water mister

Process (Activities): To print or view the water route levels for students, [click here](#). There are nine stations in this obstacle course. Each station represents the next progression of water flow, beginning with a groundwater spring and continuing until the water reaches the Gulf of Mexico. Each student represents water flowing through each of these stations, picking up sediment and depositing sediment at different locations along the water way. Signs at each station instruct the student to the activity of that station.

This activity is a great interactive demonstration of water flow and sedimentation. It works best in an open area. There is a site description map included in these instructions.

Site set up:

[Refer to water route level map.](#)

Instructions:

Station 1: A large truck inner tube works as a “spring” for students to pass through.

Station 2: We have found that three 8-foot landscape timbers work well. Stabilize them by nailing 2-foot sections of 2 x 4 to the bottom at the two ends. Place 2 or 3 end-to-end in a zig zag pattern to represent a stream. Provide a small pan or bucket of small stones off to one side at the end of the “stream”. Students will run along the timbers and pick up 3 stones before moving to the next station.

Station 3: Use a long length of rope to create a lake. At the opposite end of the lake from the stream, provide an empty bucket to place stones in. Students should come off the “stream” and into the “lake”, circling inside the lake two times, each time depositing one stone into the bucket. Students should have one stone left when they leave the lake.

Station 4: Students are now going over a dam. We use a large plastic trashcan with the bottom cut out or a sawhorse. Provide an empty bucket to place the one remaining stone.

Station 5: Students are now out of the dam and in the rapids of another stream. We use 5 plastic hula hoops placed close together in a zig zag manner. Students jump from one hula hoop to another. In each hoop, there is a small bucket of stones. Students pick up one stone from each hoop as they jump through.

Station 6: This is similar to Station 2. Provide 2 or 3 more landscape timbers stabilized with 2 x 4's. Provide a bucket with stones at the end. Students walk on the timbers and pick up one stone at the end.

Station 7: Students are now entering from a freshwater area into a saltwater area. Use another long rope to create a river delta and bay system. At the river delta area, provide an empty bucket to deposit stones. At the other end of the bay, provide a bucket of seashells. To represent the influence of tides, students circle around the bay. Each time they pass the seashells, they pick up one. Each time the student runs by the empty bucket at the river delta, they deposit a stone. Do this until all of the stones are deposited. They should have all seashells at this point.

Station 8: Use another long rope to create the Gulf of Mexico beach. Provide an empty bucket at the far beach side. Students cross the Gulf of Mexico and place one seashell in the bucket and return to the bay. Students will continue crossing the Gulf of Mexico and depositing seashells until all of the shells are deposited. This represents the currents in the Gulf washing seashells onto the beaches.

Station 9: This is the last step of the water cycle when water turns to vapor. As students leave the Gulf, use a mister to spray them. This represents the water vapor and rain releasing them to the atmosphere.

Product/Application: Have students discuss the route water takes in their own area and where their local water comes from and where it goes. The obstacle course can be modified to fit local conditions and waterways. To view a map of your waterways, click on View Data on the Cyberways and Waterways site: <http://www.cyberwaysandwaterways.com/en/viewData>

Assessment/Evaluation: Use maps of area waterways to check the construction of your own obstacle course. Have the students come up with ideas on what other items could be used to represent water control structures, streams or lakes. Have students describe the effect water velocity has on bed load and sedimentation. Have students research and discuss positive and negative effects of damming Texas rivers.

Time frame: Set up: one hour
Activity: 1 class period

Grade level: 6-12

TEKS Correlation:

Science

Grade 6: 6.1, 6.2, 6.3

Grade 7: 7.1, 7.2, 7.3

Grade 8: 8.1, 8.2, 8.3

Aquatic Science: C1A, C4A

Environmental Systems: C1, C2, C3, C6