Soil Erosion

Objective: Participants will learn that vegetation is important to protect soil from erosion and fresh water from sedimentation.

Method: Students will discover for themselves how soil erosion actually works.

Materials: two boxes (dishpan size is adequate); plastic lining for the boxes (trash bags are fine); two watering cans, roughly the same size; two half gallon wide mouth jars; two sticks of wood; 1 piece of sod; loose soil; pine needles; straw or wood shavings for mulch; scissors

Procedure:
1. Line each of the two boxes with plastic so the boxes will not leak during the experiment. Notch a V in one end of each box.
2. Fill one box with a large piece of sod with the grass side up. If the grass is long, cut it with a pair of scissors until it measures no more than one inch. Fill the other box with soil from the same area. The soil in the second box should have no grass on it.
3. Set the boxes on a table and put a piece of wood under one end of each box so they are on a slope. The end of the box that has a V cut in it should hang slightly over the end of the table. Place the empty jars under the V shaped spout on each box.
4. Fill the two watering cans with water and pour water on both boxes at the same time. Hold the cans at the same height and pour at the same rate for both boxes.
5. Observe carefully and have participants complete the questions below.

Evaluation:
1. Did the water run off the boxes at the same rate of speed? Which was faster? What might account for the difference?

2. Is the color of the water collected the same in both bottles? Which is muddier? What might account for the difference?

3. In which box is there less soil lost to the force of the water?

4. Discuss cutting down trees next to water, erosion and its effects on streams, silt and sand effects on living organisms in and around the water.

Taken from 4-H Water Quality Resource Notebook, Cooperative Extension, University of New Hampshire.