

Start by building a “hillside” in each box. The hillside should slope in two directions (see illustration). Now, begin building an insloping mountain road. Remember to slope your road surface inward. Look at Figure 1 in the article for an example. Don’t forget to build a ditch on the inside. Use plastic straws for culverts along your road. You will need to cut the edge of the straw before burying it under the road (see illustration). Then, build a waterway from the “culverts” down the hillside by creating ditches down the hillside. The waterways should go down to the lowest corner of the box. In one of the boxes, put plugs of grass (small sections of grass dug up with about 1 inch of soil) on the upper hillside, the cutslope, and the downslope (but not on the road or waterway).

When you have finished building a road in each box, use a watering can to pretend that it is raining. What happens to the water and the soil in each box? Is there a difference in the amount of erosion (soil being carried down the hillside) between the two boxes? Why or why not? What conclusions can you make about the construction of insloping mountain roads? What could you do to reduce erosion for your own insloping road?

From Tysdal, Laurie M.; Elliot, William J.; Luce, Charles H.; and Black, Thomas A. (1999). Modeling erosion from insloping low-volume roads with WEPP watershed model. National Academy Press: *Transportation Research Record*, 2(1652): 250-256.

Website:

<http://forest.moscowfsl.wsu.edu/>

FACTivity

In this FACTivity, you will build your own insloping road! Get two large cardboard



boxes about 30 inches square and at least 12 inches high. Your teacher should remove the lid flaps from the boxes. Line the boxes’ bottom and sides with plastic. Fill each box about half full with soil.

