



Energy in Flowing Water

Question

What effects how fast water flows?

Before You Begin

Obtain materials: Water container with spout, container to catch water, pipe insulator that is used as a model for a river bed, stopwatch (or if unavailable, your group can count seconds as 1 Mississippi, 2 Mississippi, 3 Mississippi...), ½ of a small cork, protractor.

Decide who will do each of the following jobs: 2 team members will hold the foam model, 1 team member will pour water, 1 team member will drop the piece of cork in the model, 1 team member will be the timekeeper, 1 team member will record the times on the chart below.

Set your water container on a table, shelf, or other sturdy, elevated surface so that the spout is facing the front. The river bed model (pipe insulator) will be held under the spout at the positions described below for Investigations A, B, and C. If you are working indoors, you will need to be sure to set up your model carefully so that the water will flow from one end to the other and pour into the catchment container.

Investigations

A – Hold model at an angle of about 23 degrees.

B – Lower angle of model to about 10 degrees and make a curve.

C – Hold model almost flat with very little slope.

Procedure

1. Model holders hold the foam model as described above for Investigation A.
2. Open the spout and let the water run down the “river bed” in a steady stream into the container or on the ground if outdoors.
3. After the water begins to flow steadily down, drop the cork into the water at the top of the model at the line.
4. Time how long it takes the cork to go completely down the model.
5. Repeat Investigation A two more times.
6. Calculate the average time for the cork to move down the model for Investigation A.
7. Repeat above for Investigations B and C.

INVESTIGATION	TIME 1	TIME 2	TIME 3	AVERAGE TIME
A				
B				
C				