

LAB-AIDS® KIT #442 - MODELING STREAM EROSION AND DEPOSITION Student Worksheet and Guide

Water plays an important role in creating the landforms found on Earth's surface. Moving water can remove and transport, or **erode**, pieces of rock, or **sediments** from their original location. These eroded sediments are pushed along by the moving water, sometimes for many miles and sometimes for only a few millimeters. Where the sediments end up coming to rest, or **deposited**, depends on the size of the sediments and the force of the flowing water. Sediments are deposited in those locations where the force of flow becomes too low to push the sediments any further. A **delta** is a depositional areas near the mouth of a river, where the flowing river enters a non-flowing body of water such as a lake or ocean.

Materials

For the class

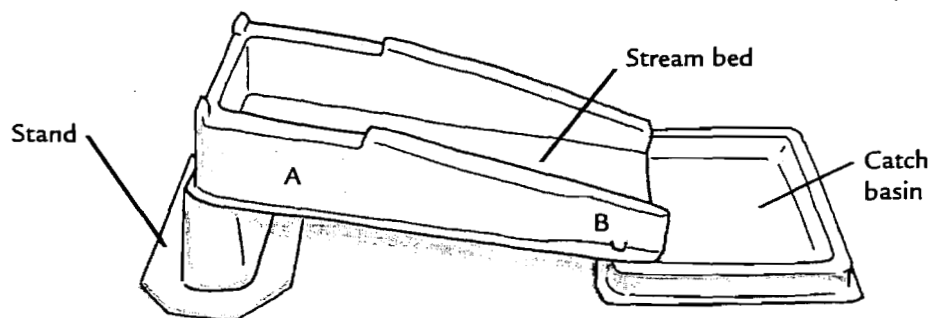
- 2 bottles of LAB-AIDS® Stream Sand

For each group of students

- 1 LAB-AIDS® Mini Stream Table
- 1 LAB-AIDS® Rainmaker
- 1 30-mL graduated cup
- 1 plastic spoon
- 1 plastic cup of water
- paper for covering your work area
- paper towels

Procedure

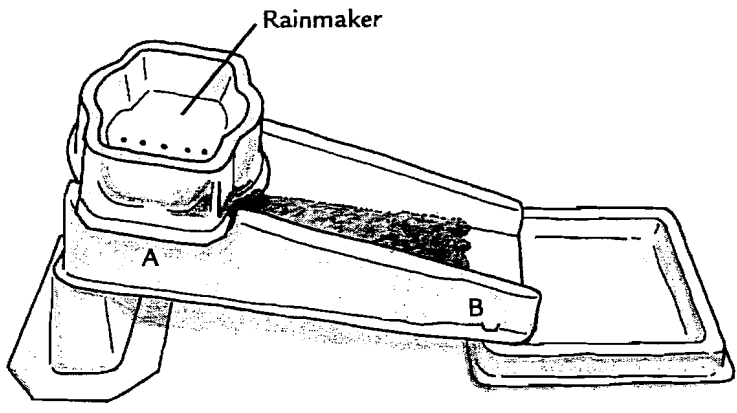
1. Cover your work area with one or two layers of paper.
2. Set up your Mini Stream Table as shown in the diagram below:



3. Add three 30-mL cupfuls of dampened Stream Sand to the middle of the stream bed. Use the spoon or your fingers to pack the sand into an even layer that covers the stream bed from point A to point B.



4. Place the Rainmaker over point A of the Mini Stream Table as shown in the diagram below.



5. Add one 30-mL cup of water to the Rainmaker and observe. Use the space below to sketch the patterns produced by the flowing water.

Point A

Point B

6. Add another 30-mL cup of water to the Rainmaker and observe. Use the space below to sketch the patterns produced by the flowing water.

Point A

Point B

7. Add a third 30-mL cup of water to the Rainmaker and observe. Use the space below to sketch the patterns produced by the flowing water.

Point A

Point B

Analysis

1. Describe the major changes that occurred each time 30-mL of rain fell on the stream bed.

2. Where did the greatest amount of erosion occur? Explain why more erosion takes place in this location.

3. Where did the greatest amount of deposition occur? Explain why more deposition takes place in this location.

4. There are places where both erosion and deposition can occur. Describe this type of location and explain why both erosion and deposition can occur in this type location.

5. Explain why it is important for people to understand and determine where erosion and deposition
a. are occurring today.

- b. have occurred in the past.

6. Consider the Grand Canyon. Where do you think the material that was eroded by the Colorado River was deposited? Refer to the U.S. map in your classroom.

7. Which do you think came first, the Colorado Plateau, the Colorado River, or the Grand Canyon? Describe why you think so and support your idea with evidence.
