

Sec: _____ Name: _____

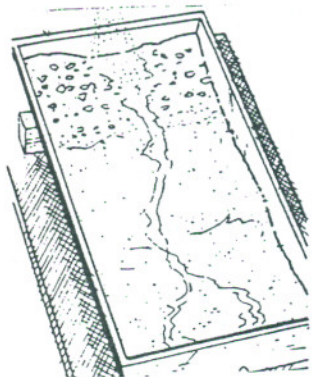
Experiment: River Erosion and Deposition
(E. Science 9-9-1f)

Purpose: To demonstrate the formation of a delta, and to observe the erosional processes of a river.

Materials: pail pebbles
rock (flat) about 6 cm sand (fine)
water hose water
stream table 2 wood blocks

Methods:

1. Set up the stream table as shown in the figure. Do not run water through hose till the experiment is set up.
2. Mix the large pebbles and the fine sand and place them at the upper level of the stream table.
3. Form a "lake" at the lower end of the stream table. With your finger, make a small trench (straight) about 1 cm deep from the upper level of the stream table to the lake. Place the flat rock (6 cm) in the middle of the trench, about half way down the trench.
4. **Gently** pour the water over the upper end of the river. Observe and diagram what occurs under results A.
5. Now, alternately use more and then less water and note how this affects the structure formed.
6. Reform the river, adding two or three sweeping curves. Bury the flat rock (6 cm) along the outside of one of the curves.
7. Let the water run slowly through the river. Observe and diagram what occurs under results B.



Results:

A	B

Conclusions:

1. What structure forms at the mouth of the river?
2. Explain the positions of the sand and the larger pebbles in relation to the mouth of the river.
sand is located _____
pebbles are located _____

Sec: _____ Name: _____

3. What happens at the mouth when the main river is filled with sediment?
4. How does the velocity of a river affect the structure of the delta?
5. Where does cutting of the river banks occur? (outside or inside of curve)

Discussion:

1. What happens to the river channel when the water encounters resistant material (such as the 6 cm rock)?

2. What might happen to the channel of this river if you increased the slope of the stream table?

3a. Read Genesis 7:11. What was the purpose of God opening the floodgates of heaven?

3b. Read Mal. 3:10. God promises to open the floodgates of Heaven and pour out a blessing on those who participate in a certain request of God. What does God want us to do so that He can pour out His blessings on us?

7. *In the blank at the left, write the letter of the term or phrase that correctly completes each statement.*

- _____ 1. Water runoff forms small _____.
a. water cycles b. drainage c. streams d. overflows
- _____ 2. The land area from which a stream gets its water is its _____.
a. overflow b. drainage basin c. runoff d. river system
- _____ 3. The largest drainage basin in the United States is that of the _____.
a. Missouri River c. Appalachian Mountains
b. Rocky Mountains d. Mississippi River
- _____ 4. Most of the rain that falls between the Rocky Mountains and the Appalachian Mountains flows into the _____.
a. Missouri and Ohio rivers c. Rocky Mountains
b. Appalachian Mountains d. Pacific Ocean
- _____ 5. A stream that flows swiftly through a steep valley is a _____ stream.
a. mature b. shallow c. old d. young
- _____ 6. The broad, flat valley floor cut by a stream is a _____.
a. floodplain b. meander c. drainage system d. mature river
- _____ 7. A curve in a river formed by erosion is called a _____.
a. floodplain b. meander c. drainage system d. mature river