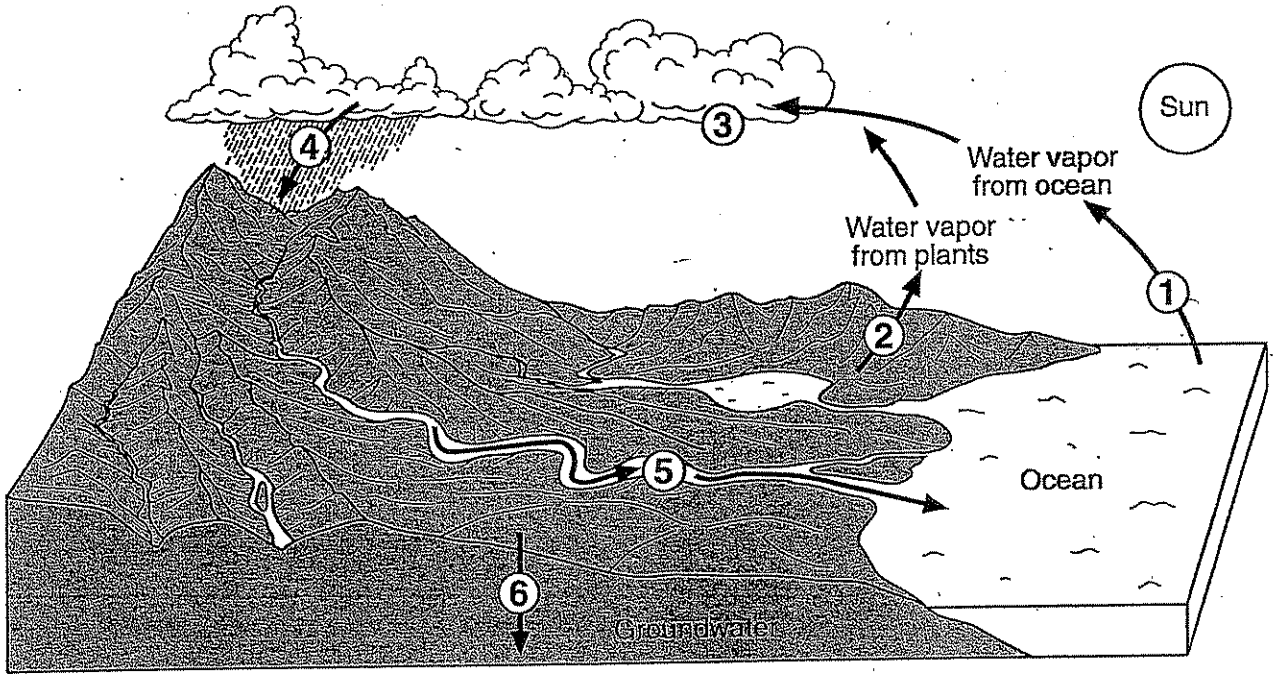
EROSION POWER POINT QUESTIONS

66 The diagram below shows a model of the water cycle. The arrows show the movement of water molecules through the water cycle. The circled numbers represent the processes that occur as the water molecules reach the different stages of the water cycle.



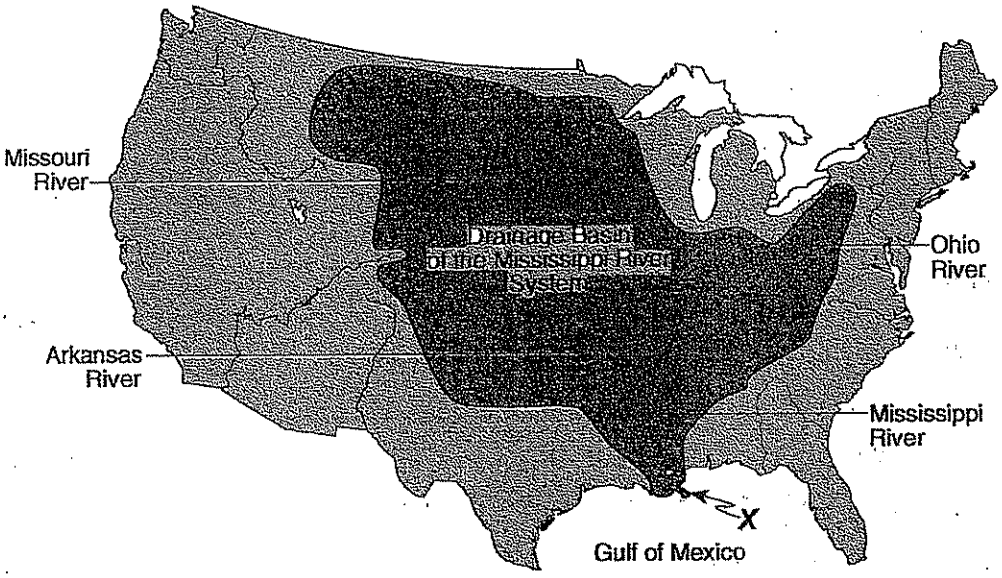
Complete the table *in your answer booklet* by identifying the name of the water cycle process occurring at *each* number. [2]

65 _____

66

Number	Water Cycle Process
1	
2	
3	
4	
5	
6	

The map below shows the drainage basin of the Mississippi River system. Several rivers that flow into the Mississippi River are labeled. The arrow at location *X* shows where the Mississippi River enters the Gulf of Mexico.



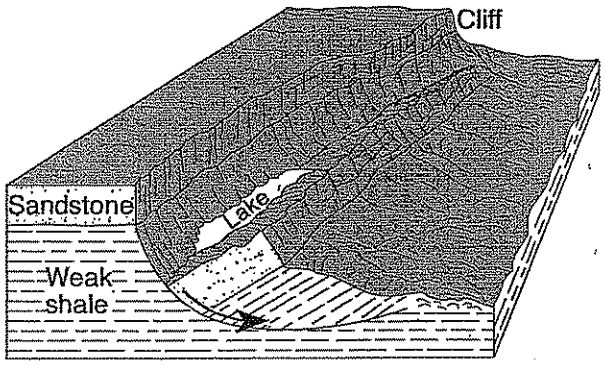
209) On the map shown, the entire land area drained by the Mississippi River system is referred to as a

A) levee
B) watershed
C) floodplain
D) meander belt

210) The structure formed by the deposition of sediments at location *X* on the map is *best* described as a

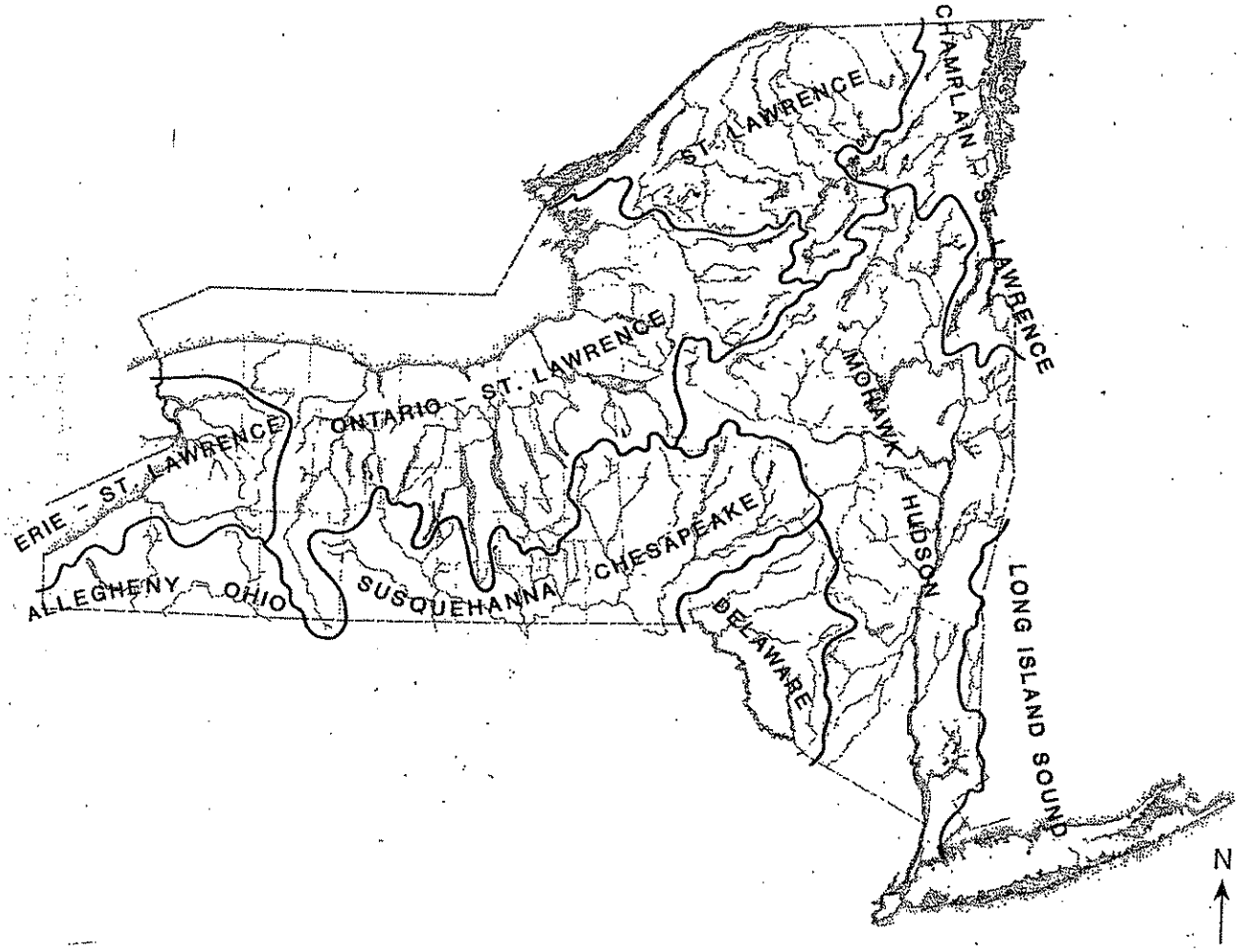
A) delta
B) tributary
C) drumlin
D) moraine

The block diagram below shows a displacement of rock layers.



Which process describes the downward sliding of the rock material?

(1) tidal changes
(2) glacial erosion
(3) mass movement
(4) lava flow



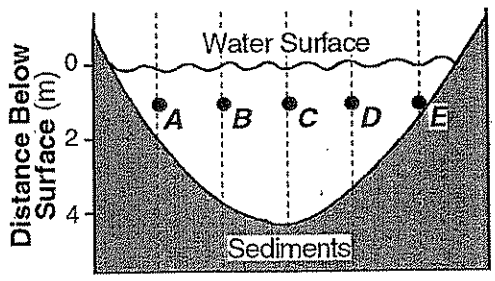
In which watershed is the Genesee River located?

A) Susquehanna-Chesapeake
B) Mohawk-Hudson
C) Ontario-St. Lawrence
D) Delaware

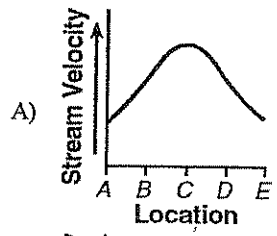
On which type of landscape region are *both* the Susquehanna-Chesapeake and the Delaware watersheds located?

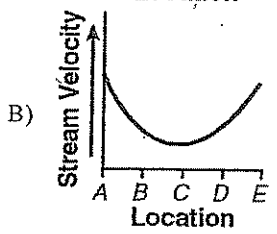
A) plateau
B) mountain
C) plain
D) lowland

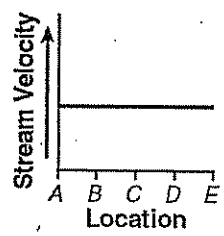
The diagram below represents a cross section of a stream. Points *A*, *B*, *C*, *D*, and *E* are locations within the stream channel.

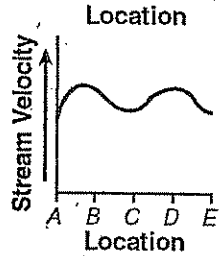


Which graph *best* represents stream velocity at locations *A* through *E*?

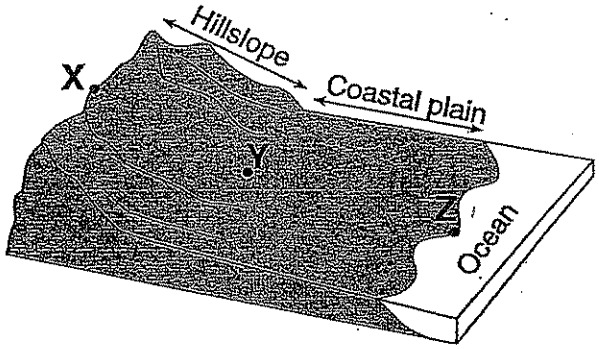
A)


B)


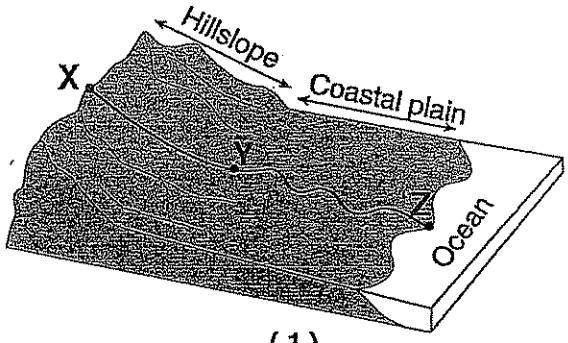
C)


D)


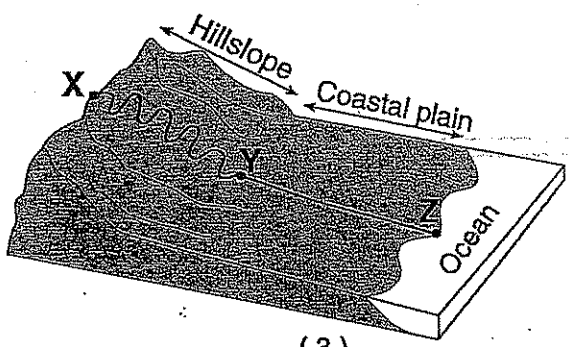
Base your answers to questions 45 through 47 on the diagram below, which shows a coastal region in which the land slopes toward the ocean. Point *X* is near the top of the hill, point *Y* is at the base of the hill, and point *Z* is a location at sea level. The same type of surface bedrock underlies this entire region. A stream flows from point *X* through point *Y* to point *Z*. This stream is not shown in the diagram.



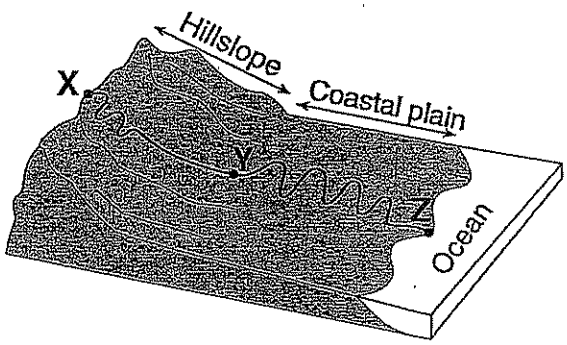
45 Which diagram best shows the most probable path of the stream flowing from point *X* to point *Z*?



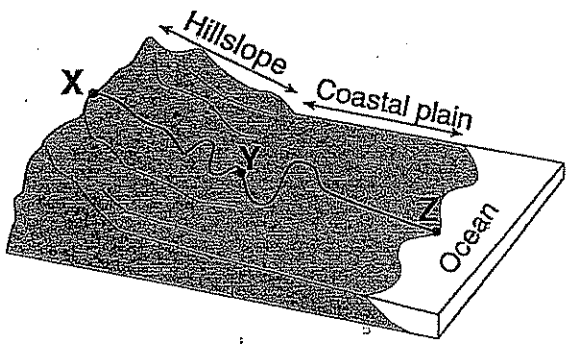
(1)



(3)



(2)

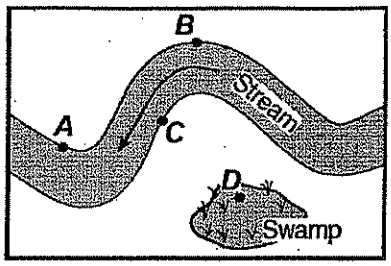


(4)

46 Compared to the stream velocity between point *X* and point *Y*, the stream velocity between point *Y* and point *Z* is most likely

(1) greater, since the slope of the land decreases
(2) greater, since the slope of the land increases
(3) less, since the slope of the land decreases
(4) less, since the slope of the land increases

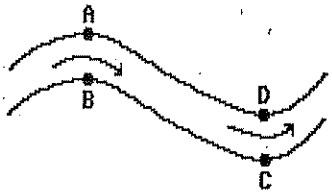
The map below shows the area surrounding a meandering stream.



At which point is erosion *greatest*?

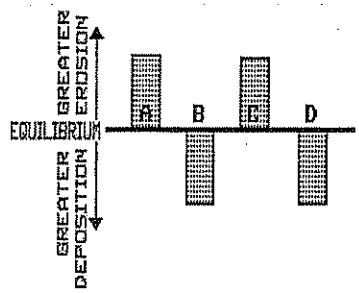
A) *A* B) *B* C) *C* D) *D*

The diagram below represents a stream flowing in the direction indicated by the arrows.

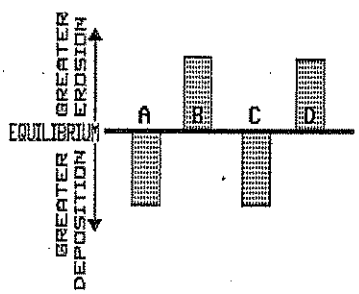


Which bar graph best represents the relative amounts of erosion and deposition at locations *A*, *B*, *C*, and *D* in he streambed?

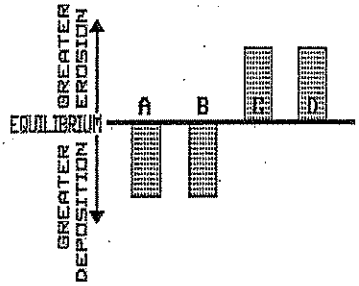
A)



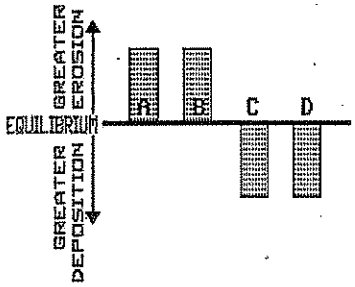
B)



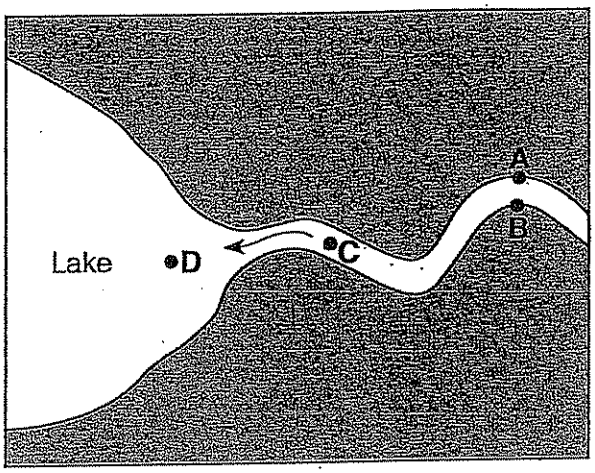
C)



D)

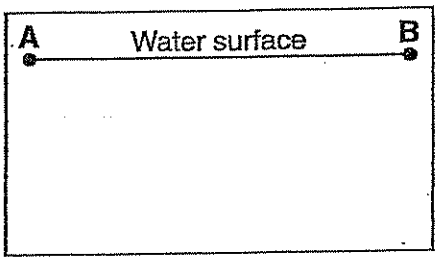


Base your answers to questions 69 through 73 on the map below, which shows a meandering stream as it enters a lake. Points *A* through *D* represent locations in the stream.



69 In the box *in your answer booklet*, draw a cross-sectional view of the general shape of the stream bottom between points *A* and *B*. The water surface line has already been drawn. [1]

69



70 State the relationship between stream velocity and the size of the sediment the stream can carry. [1]

70 _____

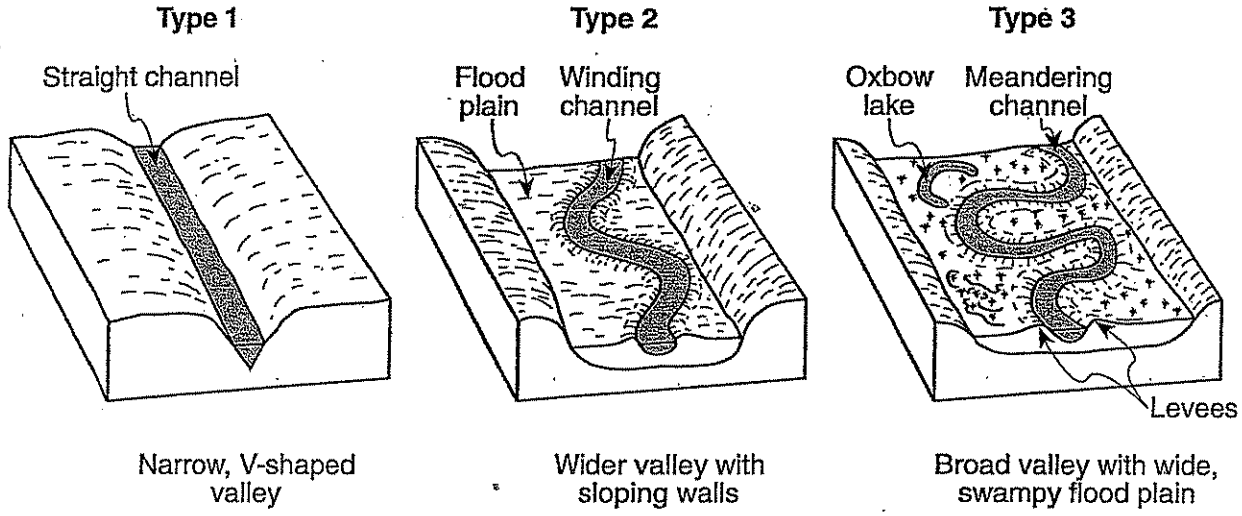
_____

71 Describe how the size and shape of most pebbles change when the pebbles are transported in a stream over a great distance. [1]

71 Size: _____

Shape: _____

Base your answers to questions 61 through 63 on the block diagrams below, which show three types of streams with equal volumes.

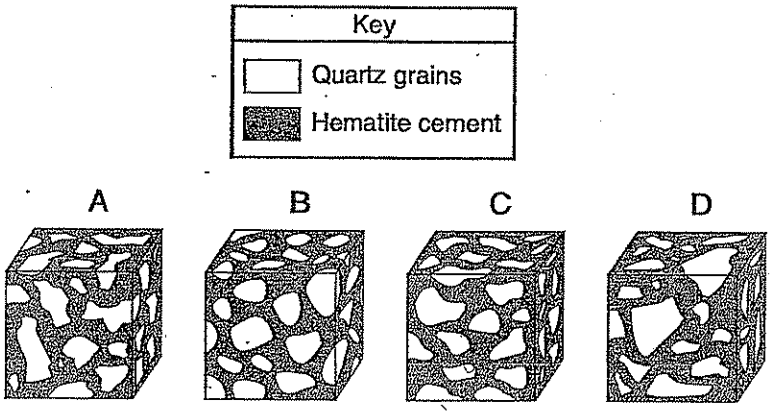


61 Explain how the differences between the type 1 and type 3 stream channels indicate that the average velocities of the streams are different. [1]

62 Explain why the outside of the curve of a meandering channel experiences more erosion than the inside of the curve. [1]

63 Explain how the cobbles and pebbles that were transported by these streams became smooth and rounded in shape. [1]

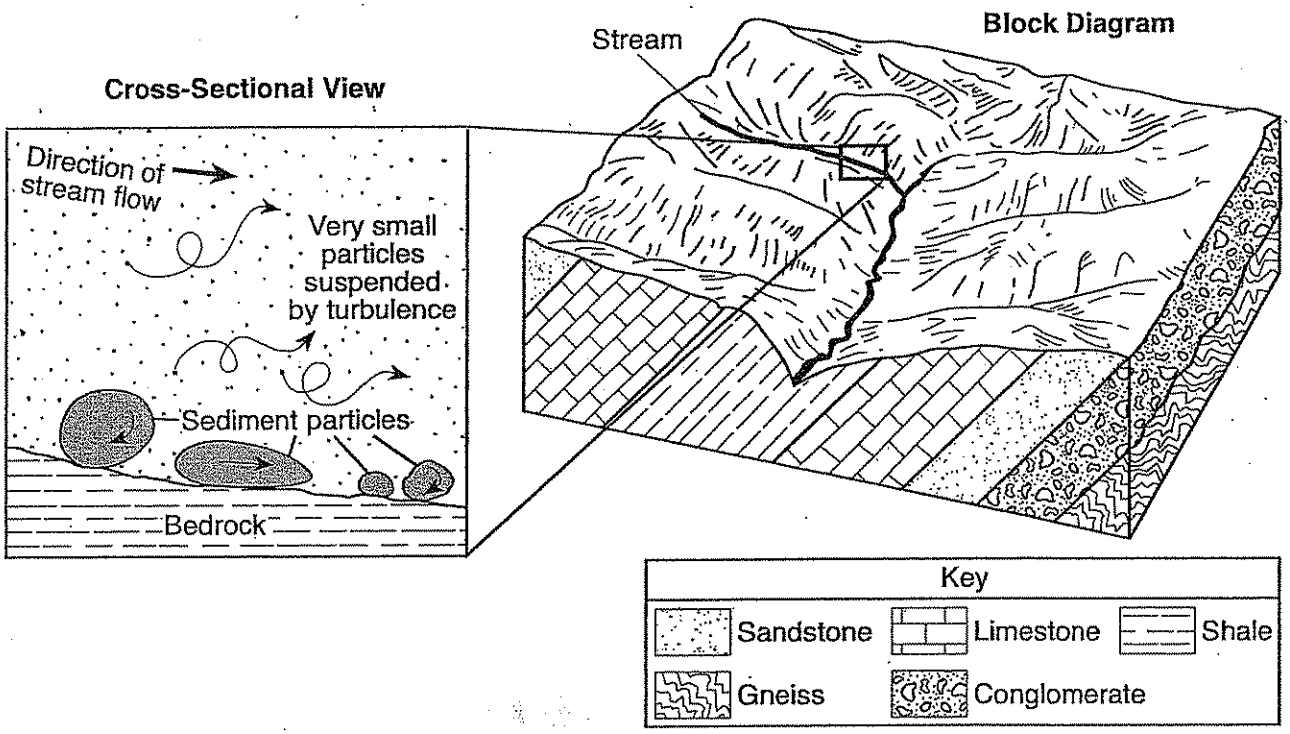
The diagram below shows four magnified block-shaped sandstone samples labeled *A*, *B*, *C*, and *D*. Each sandstone sample contains quartz grains of different shapes and sizes. The quartz grains are held together by hematite cement.



In which sample did the quartz grains undergo the most abrasion during erosional transport?

(1) *A*
(2) *B*
(3) *C*
(4) *D*

Base your answers to questions 58 through 61 on the cross section and block diagram below. The cross section shows an enlarged view of the stream shown in the block diagram. The sediments in the cross section are drawn to actual size. Arrows show the movement of particles in the stream. The block diagram represents a region of Earth's surface and the bedrock beneath the region.



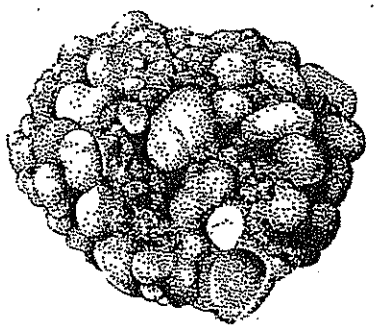
58 After measuring the actual size, identify the name of the largest particle shown on the stream bottom in the cross section. [1]

59 What process is responsible for producing the rounded shape of the particles shown on the stream bottom in the cross section? [1]

60 Identify the type of rock shown in the block diagram that appears to be the most easily eroded. [1]

61. Describe the shape of a valley eroded by a stream.

The diagram below shows a sedimentary rock sample.

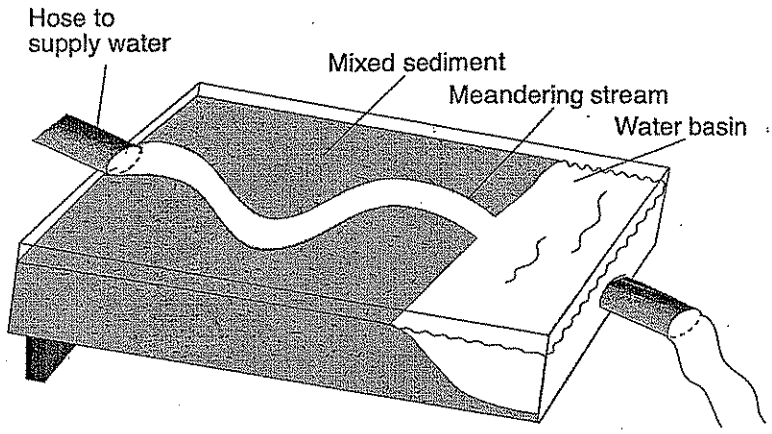


(Shown actual size)

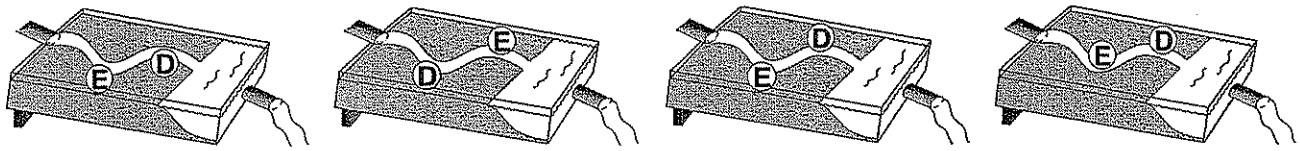
Which agent of erosion was most likely responsible for shaping the particles forming this rock?

(1) mass movement
(2) wind
(3) glacial ice
(4) running water

Base your answers to questions 48 through 50 on the diagram below, which shows a model used to investigate the erosional-depositional system of a stream. The model was tilted to create a gentle slope, and a hose supplied water to form the meandering stream shown.

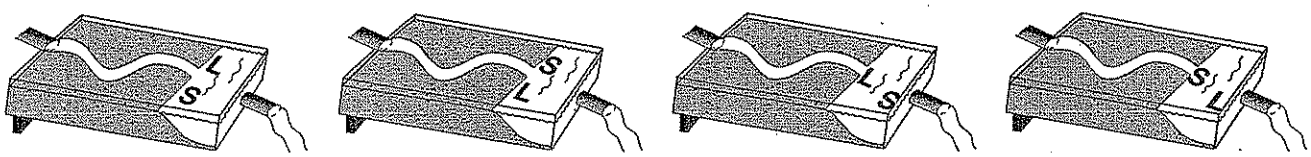


48 Which diagram best represents where erosion, *E*, and deposition, *D*, are most likely occurring along the curves of the meandering stream?



(1) (2) (3) (4)

49 Which diagram best represents the arrangement of large, *L*, and small, *S*, sediment deposited as the stream enters the water basin?



(1) (2) (3) (4)

50 How can the model be changed to increase the amount of sediment transported by the stream?

(1) decrease the temperature of the sediment
(2) decrease the slope
(3) increase the size of the sediment
(4) increase the rate of the water flow

Base your answers to questions 45 and 46 on the diagrams below. Diagrams *A*, *B*, and *C* represent three different river valleys.

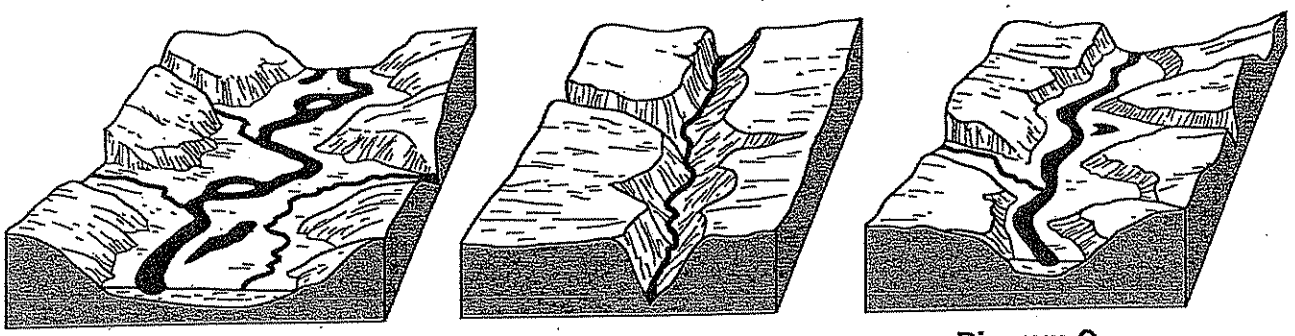
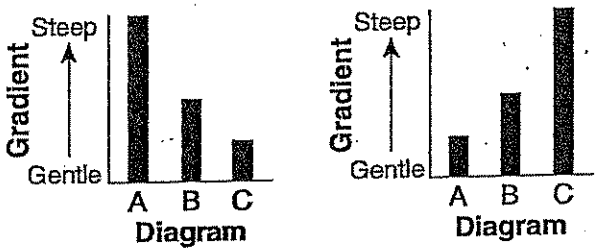


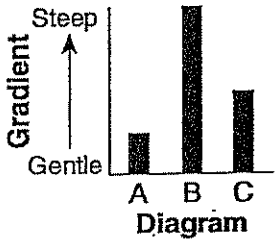
Diagram A Diagram B Diagram C

45 Which bar graph best represents the relative gradients of the main rivers shown in diagrams *A*, *B*, and *C*?

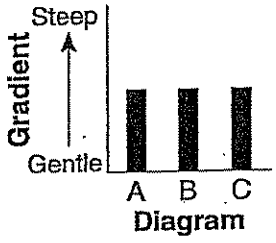


(1)

(3)



(2)

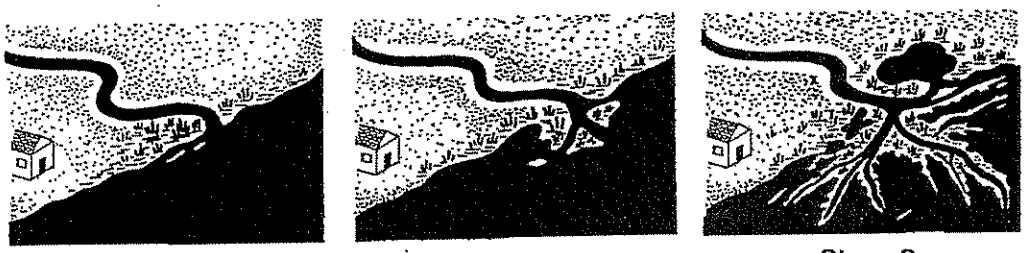


(4)

46 Most sediments found on the floodplain shown in diagram *A* are likely to be

(1) angular and weathered from underlying bedrock
(2) angular and weathered from bedrock upstream
(3) rounded and weathered from underlying bedrock
(4) rounded and weathered from bedrock upstream

The diagrams below show gradual stages 1, 2, and 3 in the development of a river delta where a river enters an ocean.

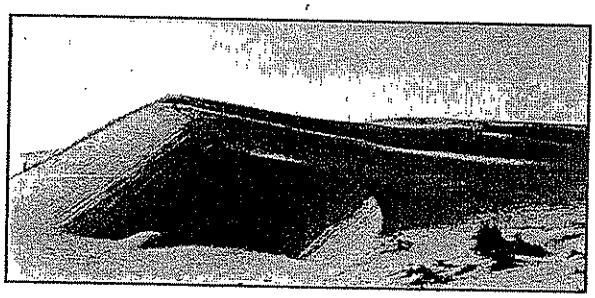


Stage 1 Stage 2 Stage 3

Which statement best explains why the river delta is developing at this site?

(1) The rate of deposition is less than the rate of erosion.
(2) The rate of deposition is greater than the rate of erosion.
(3) Sea level is slowly falling.
(4) Sea level is slowly rising.

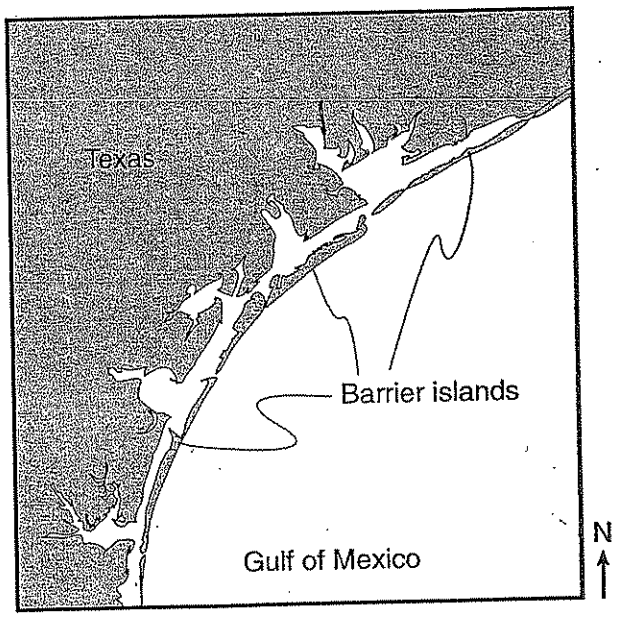
17 The photograph below shows a sand dune that formed in a coastal area.



This sand dune was most likely formed by

(1) water flowing from the left
(2) water flowing from the right
(3) wind blowing from the left
(4) wind blowing from the right

22 The map below shows barrier islands in the ocean along the coast of Texas.



Which agent of erosion most likely formed these barrier islands?

(1) mass movement
(2) wave action
(3) streams
(4) glaciers