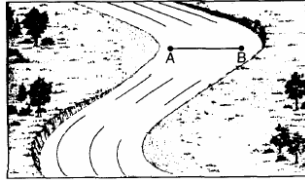
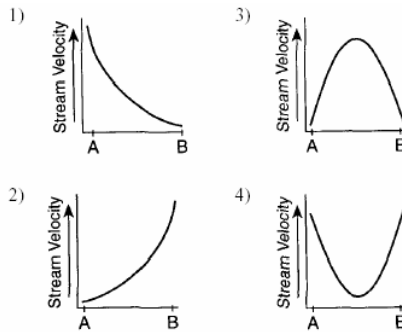


**WEATHERING, EROSION, AND DEPOSITION PRACTICE TEST**

1. The diagram below shows a meandering stream. Measurements of stream velocity were taken along straight line *AB*.

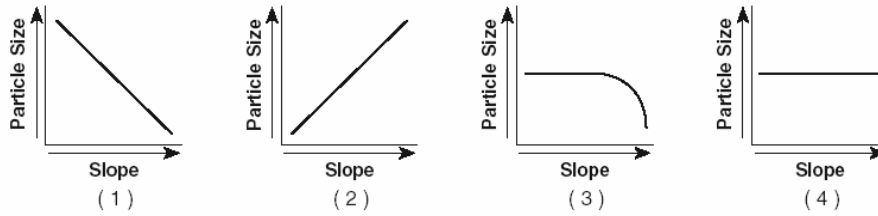


Which graph best shows the relative stream velocities across the stream from *A* to *B*?



2. Sharp-edged, irregularly-shaped sediment particles found at the base of a rock cliff were probably transported by
- |           |                 |
|-----------|-----------------|
| 1 gravity | 3 ocean waves   |
| 2 wind    | 4 running water |
3. Which erosional force acts alone to produce avalanches and landslides?
- |                 |             |
|-----------------|-------------|
| 1 gravity       | 3 wind      |
| 2 running water | 4 sea waves |
4. For which movement of Earth materials is gravity not the main force?
- 1 sediments flowing in a river
  - 2 boulders carried by a glacier
  - 3 snow tumbling in an avalanche
  - 4 moisture evaporating from an ocean
5. The largest sediment particles that can be transported by a stream traveling at a velocity of 200 centimeters per second are
- |              |             |
|--------------|-------------|
| (1) boulders | (3) pebbles |
| (2) cobbles  | (4) sand    |

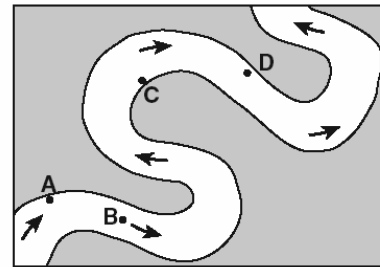
6. Which graph best represents the relationship between the slope of a river and the particle size that can be transported by that river?



7. Which agent of erosion was primarily responsible for forming the long, narrow, U-shaped valleys in the Finger Lakes region of New York State?

- (1) wind  
 (2) landslides  
 (3) meandering streams  
 (4) continental glaciers

8. The map to the right shows a meandering stream. Points A, B, C, and D represent locations along the stream bottom.



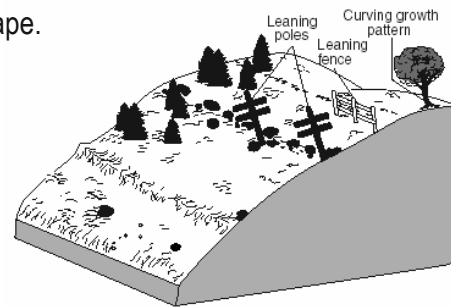
At which location is the greatest amount of sediment most likely being deposited?

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

9. The diagram below shows the surface features of a landscape.

Based on the features shown, which erosional agent had the greatest effect on tree growth and the structures that humans have built on this landscape?

- (1) running water (3) prevailing wind  
 (2) moving ice (4) mass movement



10. Much of erosion by wind is caused by

- (1) pushing sediments over cliffs  
 (2) abrasion by blowing sand  
 (3) deposition of sand and clay in dunes  
 (4) scraping and gouging deep depressions in Earth's surface

11. As a particle of sediment in a stream breaks into several smaller pieces, the rate of weathering of the sediment will

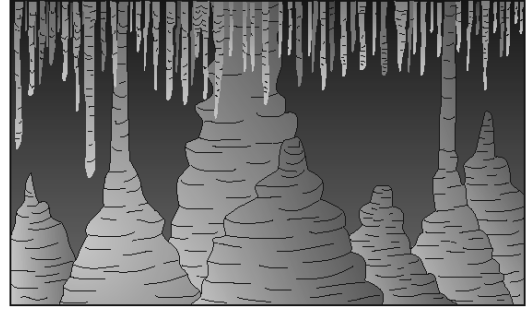
- (1) decrease due to a decrease in surface area  
 (2) decrease due to an increase in surface area  
 (3) increase due to a decrease in surface area  
 (4) increase due to an increase in surface area

12. What is the minimum rate of flow at which a stream of water can maintain the transportation of pebbles 1.0 centimeter in diameter?
- (1) 50 cm/sec
  - (2) 100 cm/sec
  - (3) 150 cm/sec
  - (4) 200 cm/sec
13. Which change would cause the topsoil in New York State to increase in thickness?
- (1) an increase in slope
  - (2) an increase in biologic activity
  - (3) a decrease in air temperature
  - (4) a decrease in rainfall
14. Which factors most directly control the development of soils?
- (1) soil particle sizes and method of deposition
  - (2) bedrock composition and climate characteristics
  - (3) direction of prevailing winds and storm tracks
  - (4) earthquake intensity and volcanic activity
15. Granite pebbles are found on the surface in a certain area where only sandstone bedrock is exposed. Which is the most likely explanation for the presence of these pebbles?
- (1) The granite pebbles were transported to the area from a different region.
  - (2) Some of the sandstone has been changed into granite.
  - (3) The granite pebbles were formed by weathering of the exposed sandstone bedrock.
  - (4) Ground water tends to form granite pebbles within layers of sandstone rock.
16. What change will a pebble usually undergo when it is transported a great distance by streams?
- (1) It will become jagged and its mass will decrease.
  - (2) It will become jagged and its volume will increase.
  - (3) It will become rounded and its mass will increase.
  - (4) It will become rounded and its volume will decrease.
17. A large, scratched boulder is found in a mixture of unsorted, smaller sediments forming a hill in central New York State. Which agent of erosion most likely transported and then deposited this boulder?
- (1) wind
  - (2) a glacier
  - (3) ocean waves
  - (4) running water
18. Stream *A* has a steeper slope than stream *B*. However, the average water velocity of stream *B* is greater than that of stream *A*. Which is the most reasonable explanation for this?
- (1) Stream *B* has more friction to overcome along its banks.
  - (2) Stream *B* has a higher average temperature.
  - (3) Stream *B* has a greater volume of water.
  - (4) Stream *B* has a curved streambed.
19. Wind is the most dominant type of erosion in
- (1) humid climates
  - (2) arid region
  - (3) tropical jungles
  - (4) mountainous regions

20. The diagram to the right shows some features in a cave.

Which type of rock was chemically weathered by acidic groundwater to produce the cave and its features?

- (1) siltstone
- (2) basalt
- (3) quartzite
- (4) limestone



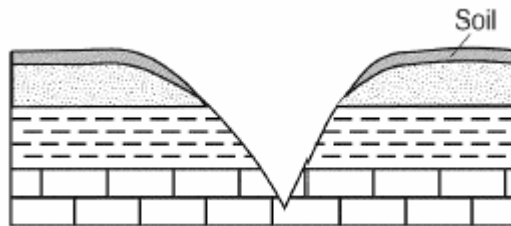
21. The principal cause of the chemical weathering of rocks on the Earth's surface is

- (1) rock abrasion
- (2) the heating and cooling of surface rock
- (3) mineral reactions with air and water
- (4) the expansion of water as it freezes

22. In which climate would the chemical weathering of limestone occur most rapidly?

- (1) cold and dry
- (2) cold and humid
- (3) warm and dry
- (4) warm and humid

23 The cross section below shows a V-shaped valley and the bedrock beneath the valley.



Which agent of erosion is responsible for cutting most V-shaped valleys into bedrock?

- (1) surface winds
- (2) running water
- (3) glacial ice
- (4) ocean waves

24. Which rock material most likely has been transported by wind?

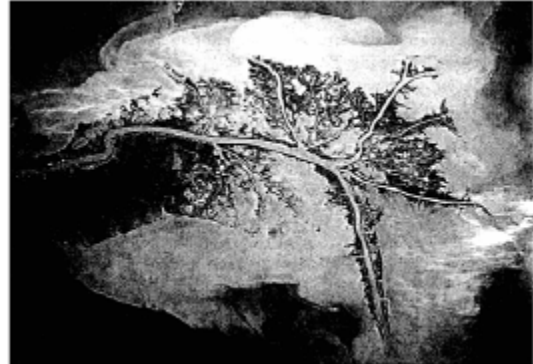
- (1) large boulders with sets of parallel scratches
- (2) jagged cobbles consisting of intergrown crystals
- (3) irregularly-shaped pebbles which contain fossils
- (4) rounded sand grains which have a frosted appearance

25. As water velocity decreases, the amount of sediment deposited

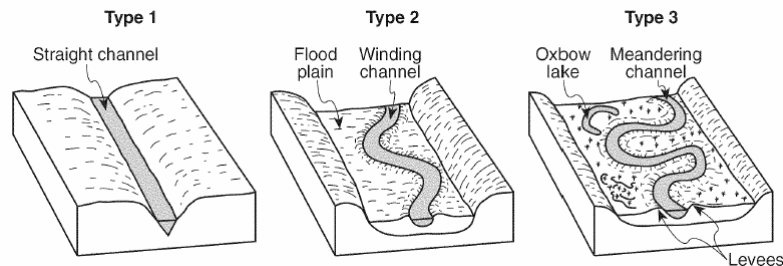
- (1) increases
- (2) decreases
- (3) remains the same

26. If the prevailing winds are from the east, a sand dune will migrate toward the
- 1 east, and have a gentle slope on the east side
  - 2 east, and have a gentle slope on the west side
  - 3 west, and have a gentle slope on the east side
  - 4 west, and have a gentle slope on the west side

27. The satellite photograph to the right shows a geologic feature composed of silt, sand, and clay. The geologic feature shown in the photograph was primarily deposited by which agent of erosion?
- (1) glaciers
  - (2) wind
  - (3) wave action
  - (4) running water



Base your answers to questions **28** through **30** on the block diagrams below, which show three types of streams with equal volumes.

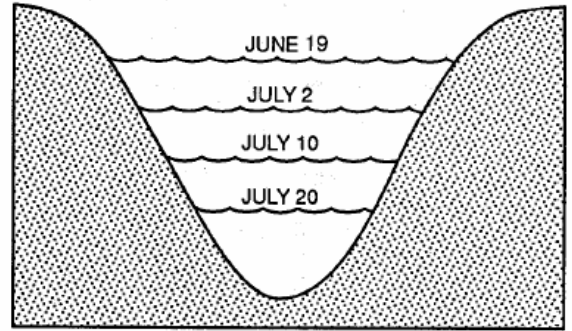


28. Explain how the differences between the type 1 and type 3 stream channels indicate that the average velocities of the streams are different.

29. Explain why the outside of the curve of a meandering channel experiences more erosion than the inside of the curve.

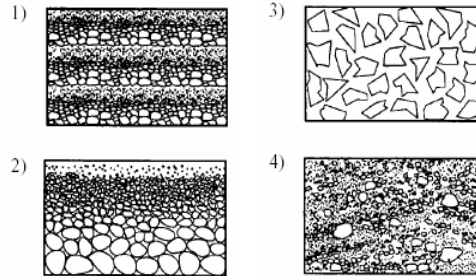
30. Explain how the cobbles and pebbles that were transported by these streams became smooth and rounded in shape.

31. The diagram to the right shows the cross section of a stream channel and the height of the stream surface on various dates of the year.

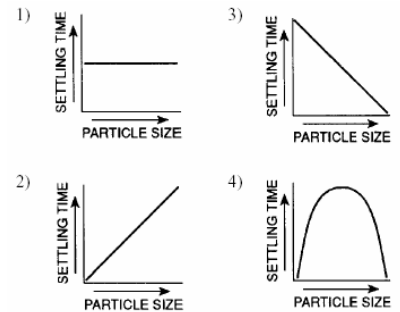


The stream's velocity from June 19 to July 20 at this section of the stream most likely

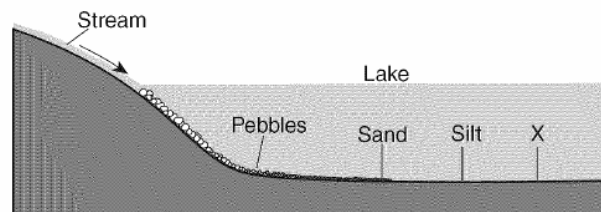
- (1) decreased, only
  - (2) decreased, then increased
  - (3) increased, only
  - (4) remained constant
32. Which diagram best illustrates a cross section of sediments that were transported and deposited by a glacier?



33. In a soil sample, the particles have the same shape but different sizes. Which graph best represents the relationship between particle size and settling time when these particles are deposited in a quiet body of water?



34. The cross section below illustrates the normal pattern of sediments deposited where a stream enters a lake. Letter X represents a particular type of sediment.



(Not drawn to scale)

a Briefly explain why deposition of sediment usually occurs where a stream enters a lake.

b Name the type of sediment most likely represented by letter X.