Erosion and Deposition by Wind,Water, Gravity and Ice Regents Review

Name **Chapter 9-10**

1. Sediments found in glacial moraines are best described as
   1) sorted and layered
   2) sorted and not layered
   3) unsorted and layered
   4) unsorted and not layered

2. Why are Precambrian gneiss cobbles and boulders commonly found on top of the surface bedrock in the Catskills?
   1) The surface bedrock of the Catskills is composed of Precambrian gneiss.
   2) The surface bedrock of the Catskills has been overturned.
   3) Many meteorites composed of gneiss have landed in the Catskills.
   4) Glaciers transported these rocks from the Adirondacks to the Catskills.

3. What is the best evidence that a glacial erratic has been transported?
   1) It is located at a high elevation in a mountainous area.
   2) It is less than 25 centimeters in diameter.
   3) Its composition is different from that of the bedrock under it.
   4) It appears to have been intensely metamorphosed.

4. Which statement best characterizes the soils found in New York State?
   1) All the soil has been removed by glaciation.
   2) Wind erosion has been the dominant agent in soil formation.
   3) Transported soils are similar in composition to underlying bedrock.
   4) Transported soils are far more common than residual soils.

5. Which quartz sample has probably undergone abrasion in a stream for the longest period of time?
   1) 
   3) 
   2) 
   4) 

6. Which sediment is most easily picked up and transported by the wind?
   1) cobbles
   2) pebbles
   3) sand
   4) silt

7. What is the largest sediment that can be transported by a stream that has a velocity of 125 cm/sec?
   1) cobbles
   2) pebbles
   3) sand
   4) clay

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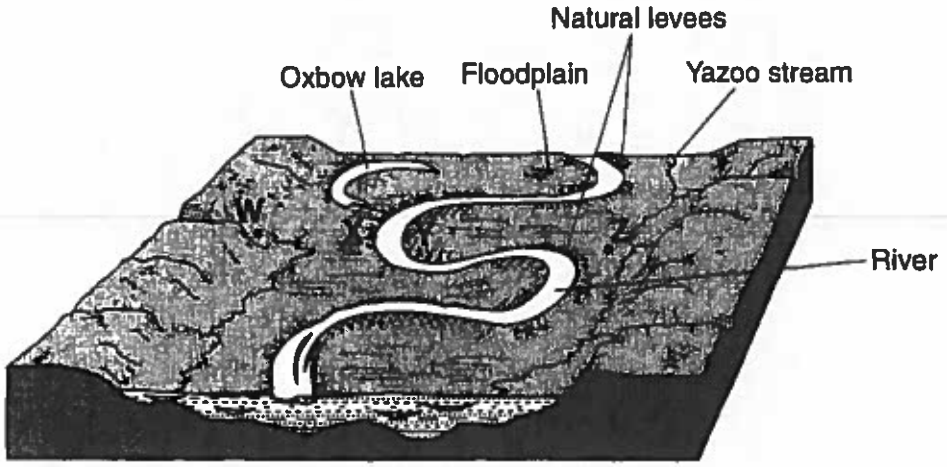
8. Base your answer to the following question on the diagram below, which represents the landscape features associated with a meandering river. Letters *W*, *X*, *Y*, and *Z* represent locations on the floodplain.



During transport by this river, a sediment particle will most likely become

1) more rounded 2) more dense 3) heavier 4) larger

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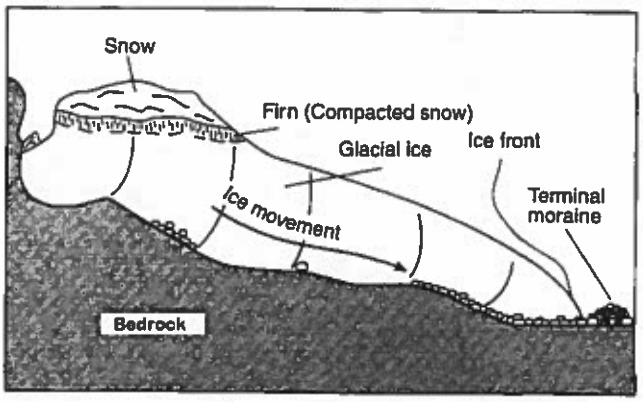
9. Base your answer to the following question on the diagram which represents a profile of a mountain glacier in the northern United States.



The downhill movement of mountain glaciers such as the one shown in the diagram is primarily caused by

1) evaporation of ice directly from the glacier
2) snow blowing across the top of the glacier
3) the force of gravity pulling on the glacier
4) water flowing over the glacier

10. Which characteristics of a particle would usually result in the longest settling time for the particle in calm water?

1) low density and round shape
2) low density and flat shape
3) high density and round shape
4) high density and flat shape

11. Deposition within a meandering stream usually occurs on the inside of the curves because the

1) water velocity decreases 3) water is deeper
2) stream gradient increases 4) stream is narrower

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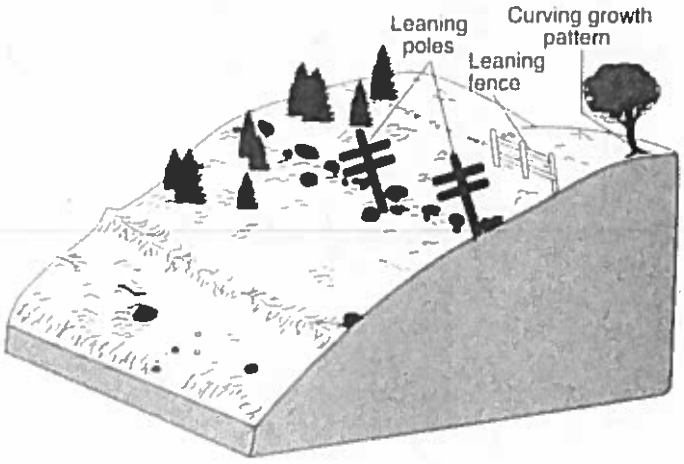
12. The diagram below shows the surface features of a landscape.



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 2) moving ice 3) prevailing wind 4) mass movement

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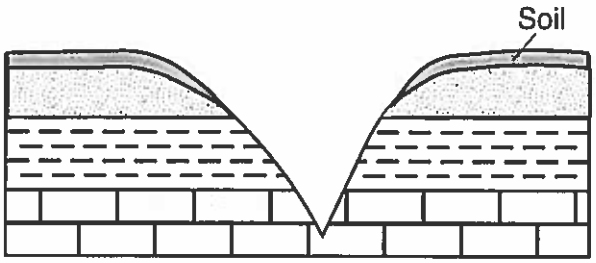
13. The cross section below shows a V-shaped valley and the bedrock beneath the valley.



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

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

14. A stream's velocity decreases from 100 cm/s to 5cm/s. Which size sediment particles will still be transported by the stream?

1) pebbles, sand, silt, and clay
2) sand, silt, and clay, only
3) silt and clay, only
4) clay, only

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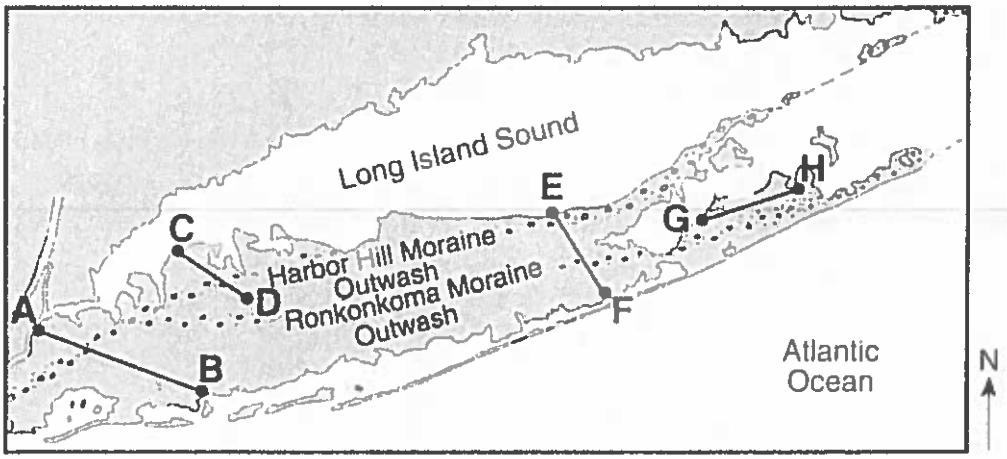
Base your answers to questions **15** and **16** on the map of Long Island, New York. *AB*, *CD*, *EF* and *GH* are reference lines on the map.

Map



15. A major difference between sediments in the outwash and sediments in the moraines is that the sediments deposited in the outwash are
    1) larger 2) sorted 3) more angular 4) older

16. The cross section below represents the sediments beneath the land surface along one of the reference lines shown on the map.

Along which reference line was the cross section taken?
1) *AB* 2) *CD* 3) *EF* 4) *GH*

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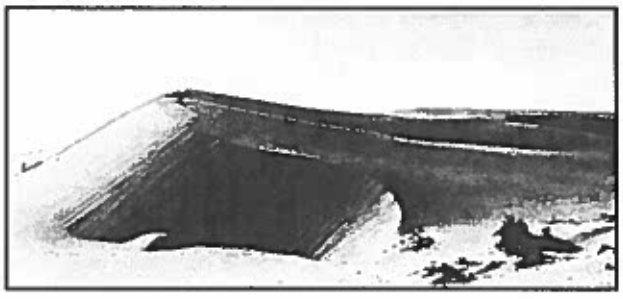
17. The photograph below shows a sand dune that formed in a coastal area.



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

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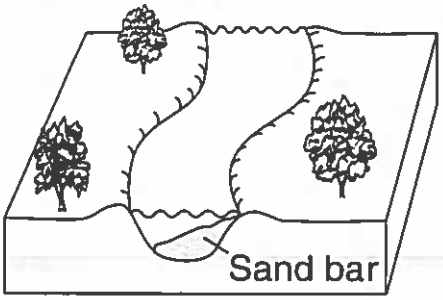
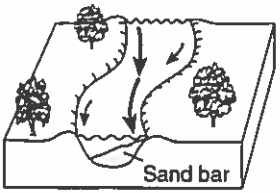
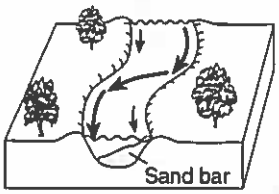
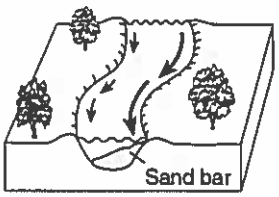
18. The diagram below shows a meandering stream flowing across nearly flat topography and over loose sediments.

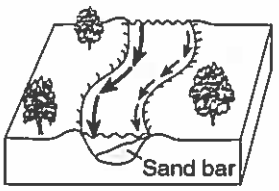


If arrow length represents stream velocity, which diagram best shows the relative stream velocities in this section of the stream?

1)


2)


3)


4)


19. The four objects below are made of the same material and have the same mass. Which object will settle fastest in calm water?

1)


2)


3)


4)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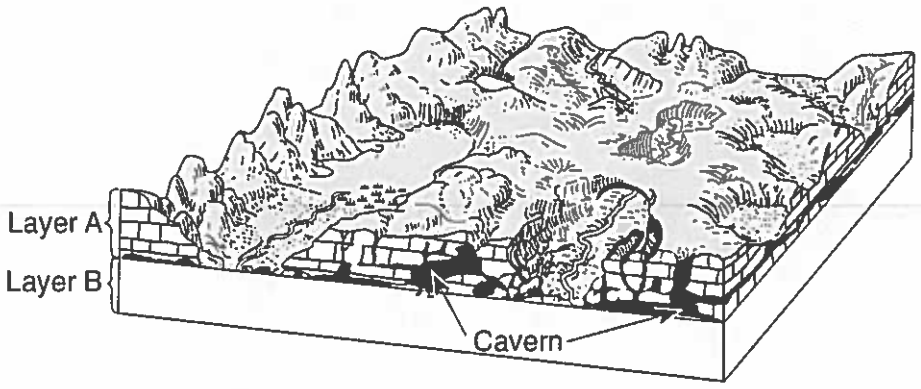
Base your answers to questions **20** and **21** on block diagram below, which shows the landscape features of an area of Earth's crust. Two sedimentary rock layers, *A* and *B*, are labeled in the diagram. The rock symbol for layer *B* has been omitted.



20. Describe how the caverns formed in rock layer *A*.

21. Identify the most abundant mineral in rock layer *A*.

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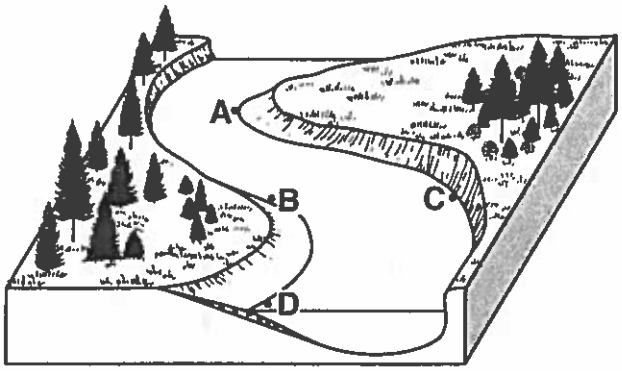
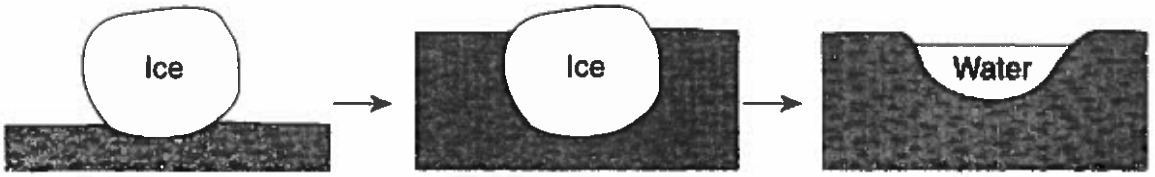
22. The diagram below shows points *A*, *B*, *C*, and *D* on a meandering stream.



At which point does the greatest stream erosion occur?

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

23. The diagram below shows a glacial landscape feature forming over time from a melting block of ice.



This glacial landscape feature is best identified as

1) a kettle lake 2) an outwash plain 3) a finger lake 4) a moraine

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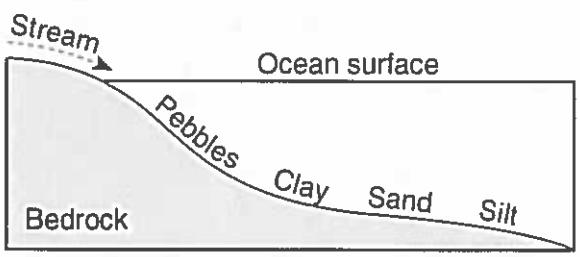
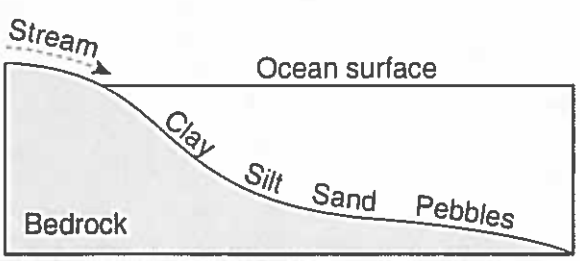
24. Which profile best shows the general depositional pattern that occurs when water from a stream enters the ocean?

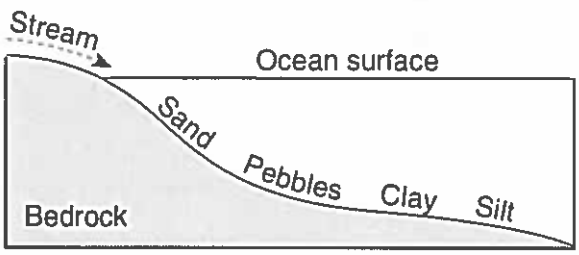
1)



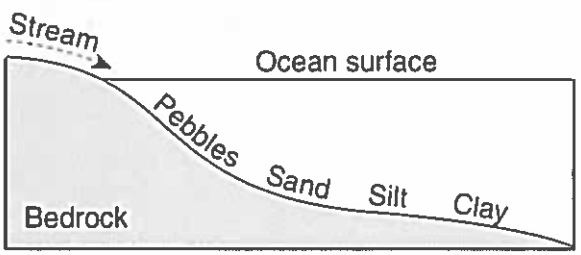
3)



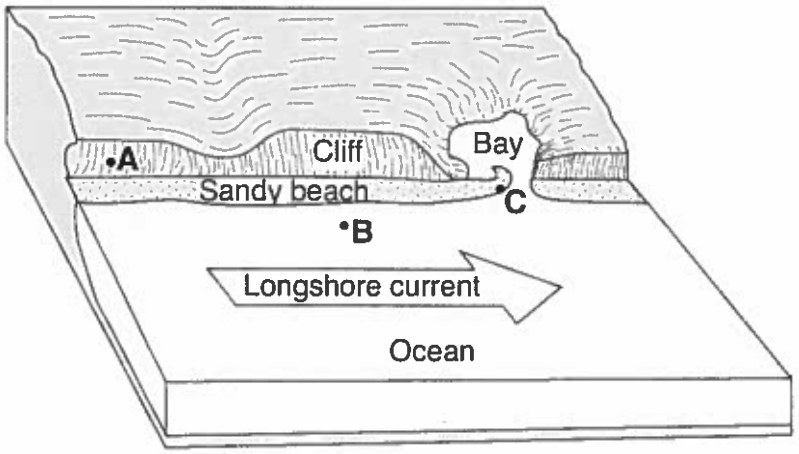
2)



4)



25. The block diagram below shows a part of the eastern coastline of North America. Points *A*, *B*, and *C* are reference points along the coast.



Which list best represents the primary processes occurring along the coastline at points *A*, *B*, and *C*?

1) *A* — folding; *B* — subduction; *C* — crosscutting
2) *A* — weathering; *B* — erosion; *C* — deposition
3) *A* — faulting; *B* — conduction; *C* — mass movement
4) *A* — precipitation; *B* — infiltration; *C* — evaporation

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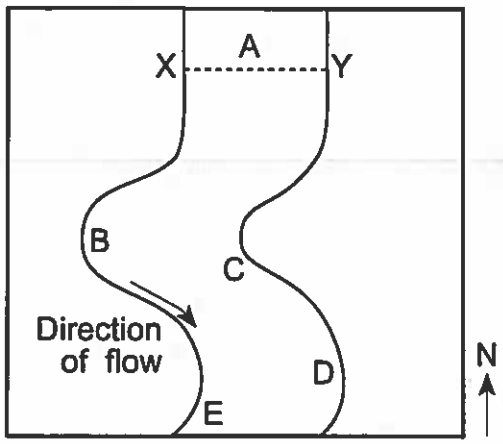
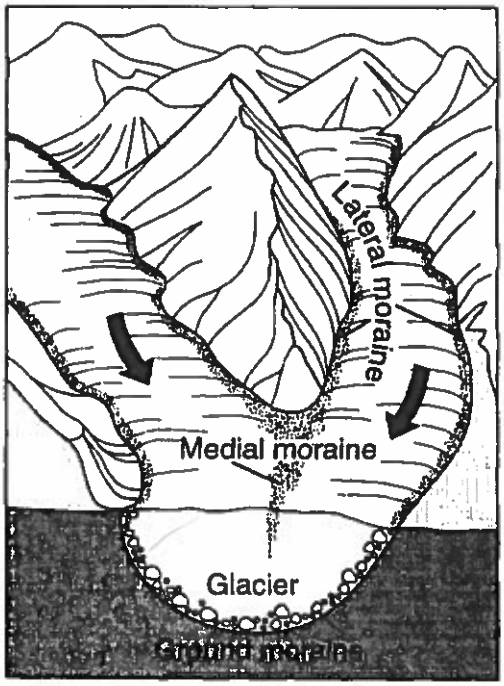
26. Base your answer to the following question on the map below, which shows a portion of a stream that flows southward. Letters *A* through *E* represent locations in the stream. Line *XY* is the location of a cross section.



At which two locations in this stream is deposition normally dominant over erosion?

1) *A* and *D*
2) *B* and *E*
3) *C* and *E*
4) *D* and *C*

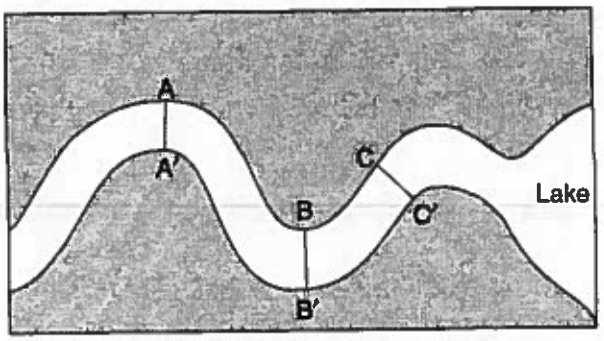
27. The diagram below shows rock material being transported by a mountain glacier.



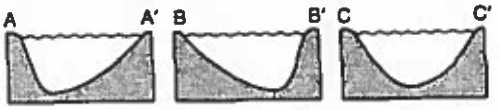
The moraine deposits left when this glacier melts will generally be

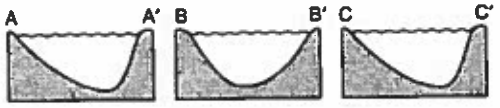
1) sorted by size and layered
2) sorted by size and unlayered
3) unsorted by size and layered
4) unsorted by size and unlayered

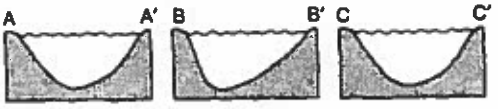
28. The map below represents a meandering stream flowing into a lake. A student measured water depths in the stream at three locations: *A*–*A'*, *B*–*B'*, and *C*–*C'*.

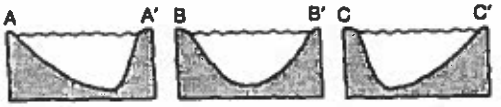


Which set of cross sections best represents the streambed at the three locations?

1) 

2) 

3) 

4) 

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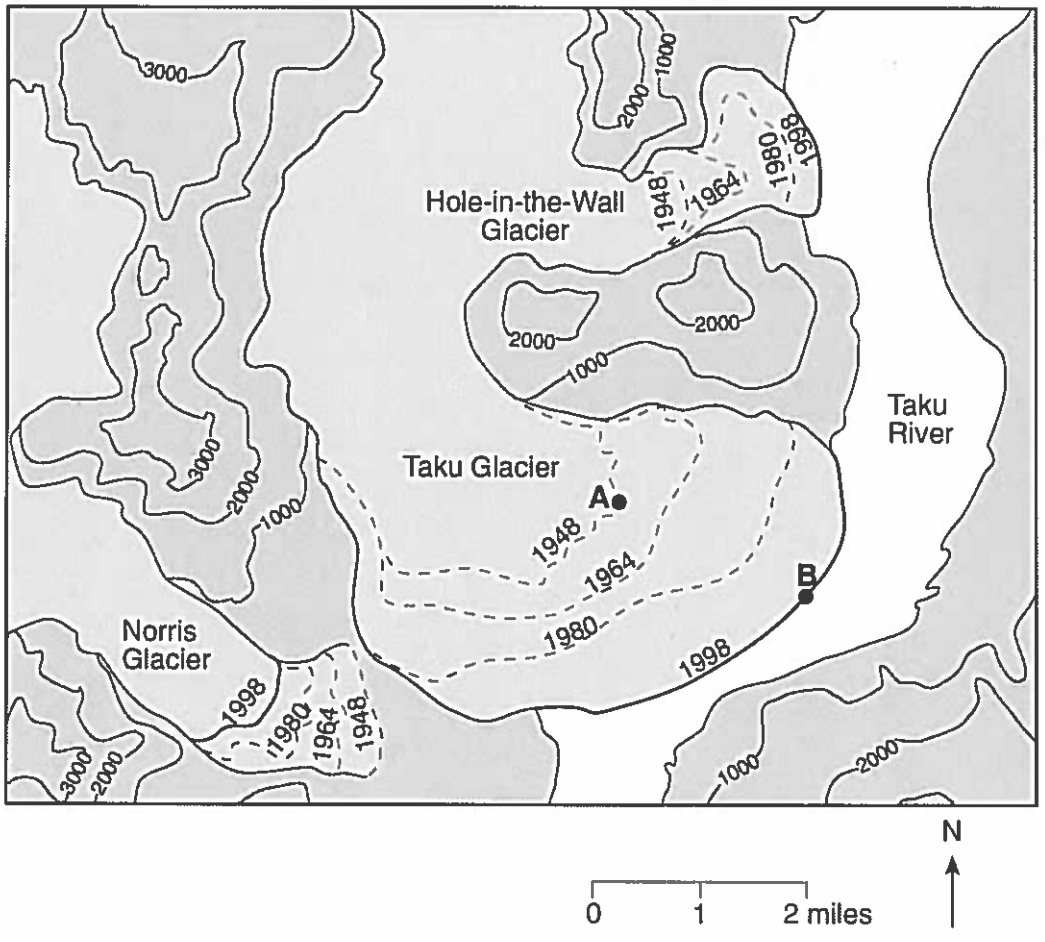
29.

Agent of Erosion	Surface Feature Formed
(1)	
(2)	
(3)	

Complete the table above, by listing *three* agents of erosion and identifying *one* characteristic surface feature formed by *each* agent of erosion.

30. Base your answer to the following question on the topographic map below, which shows three glaciers found in Alaska. Dashed lines show the inferred location of the front edge of each glacier in 1948, 1964, and 1980. Solid lines show the location of the front edge of each glacier in 1998. Points *A* and *B* show the location of the front edge of the Taku Glacier in 1948 and 1998. Elevations are in feet.



Determine the rate, in miles per year, that the front edge of the Taku Glacier moved between point *A* and point *B*.

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Name **Chapter 9-10**

Reference Tables

Erosion and Deposition by Wind,Water, Gravity and Ice Regents Review
Answer Key
[New Exam]

1. 4
2. 4
3. 3
4. 4
5. 1
6. 4
7. 2
8. 1
9. 3
10. 2
11. 1
12. 4
13. 2
14. 2
15. 2
16. 3
17. 4
18. 2
19. 1
20. *Examples:* — Limestone reacts with acids in groundwater. — Acids in water cause limestone to dissolve. — Chemical weathering of limestone — Water flowing through cracks removes limestone.
21. *Examples:* – calcite – $CaCO_3$
22. 3
23. 1
24. 4
25. 2
26. 3
27. 4
28. 1
29.

Agent of Erosion	Surface Feature Formed
Waves	beach, sandbars, barrier islands
Wind	loss of topsoil, dunes
Glacier	U-shaped valley, moraines, drumlins
Running water (streams)	V-shaped valley, deltas, meanders
Mass movement	landslides, slumps

30. any value from 0.035 to 0.045 mi/yr