

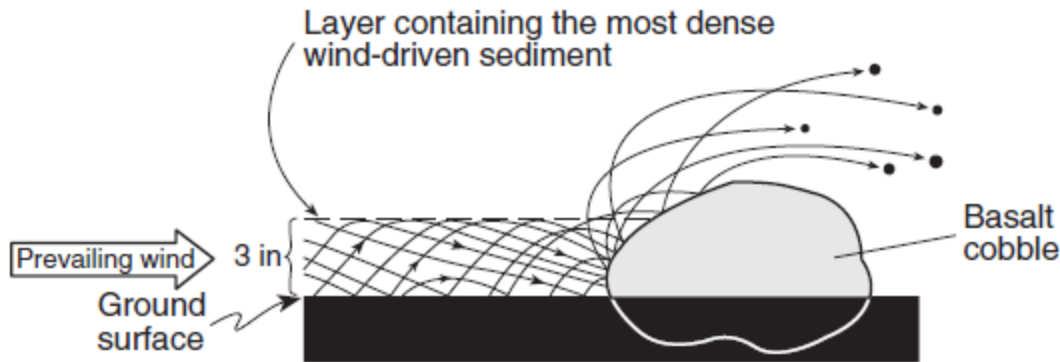
1. The photograph below shows the results of a landslide.



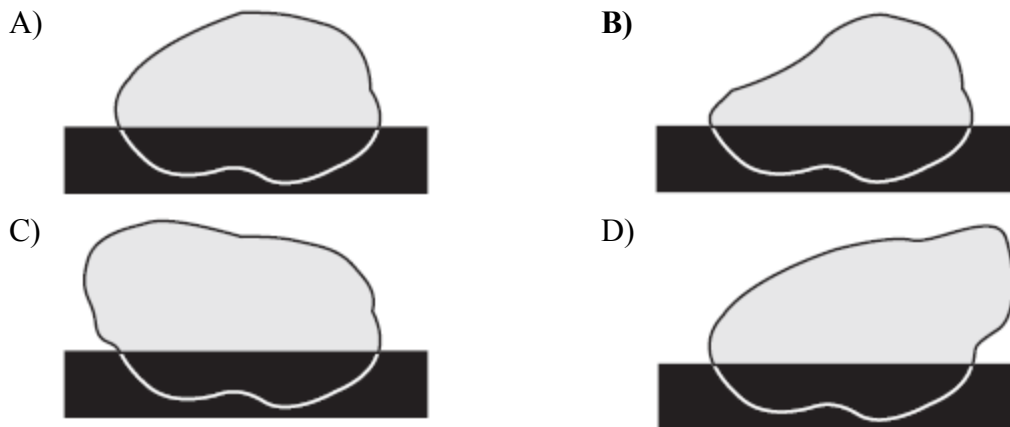
This landslide is an example of

- A) wind abrasion
B) glacial deposition
C) wave action
D) **mass movement**
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2. Which agent of erosion is most likely responsible for the deposition of sandbars along ocean shorelines?
A) glaciers
B) mass movement
C) **wave action**
D) wind action
3. Which type of climate has the greatest amount of rock weathering caused by frost action?
A) a wet climate in which temperatures remain below freezing
B) **a wet climate in which temperatures alternate from below freezing to above freezing**
C) a dry climate in which temperatures remain below freezing
D) a dry climate in which temperatures alternate from below freezing to above freezing
4. By which processes are rocks broken up and moved to different locations?
A) evaporation and condensation
B) **weathering and erosion**
C) burial and cementation
D) compaction and transportation
5. Which process involves either a physical or chemical breakdown of earth materials?
A) deposition
B) sedimentation
C) **weathering**
D) cementing
6. Which property of water makes frost action a common and effective form of weathering?
A) Water dissolves many earth materials.
B) **Water expands when it freezes.**
C) Water cools the surroundings when it evaporates.
D) Water loses 334 Joules of heat per gram when it freezes.
7. Which rock weathers most rapidly when exposed to acid rain?
A) quartzite
B) granite
C) basalt
D) **limestone**
8. Which event is an example of chemical weathering?
A) rocks falling off the face of a steep cliff
B) feldspar in granite being crushed into clay-sized particles
C) water freezing in cracks in a roadside outcrop
D) **acid rain reacting with limestone bedrock**

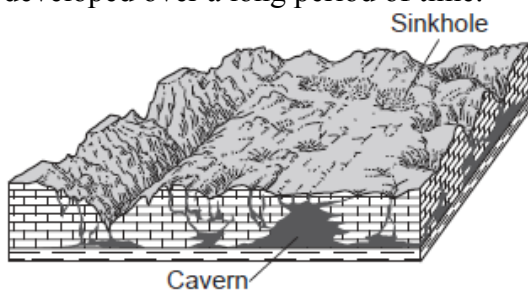
9. The cross section below shows the movement of wind-driven sand particles that strike a partly exposed basalt cobble located at the surface of a windy desert.



Which cross section best represents the appearance of this cobble after many years of exposure to the wind-driven sand?



10. The block diagram below represents a landscape where caverns and sinkholes have gradually developed over a long period of time.



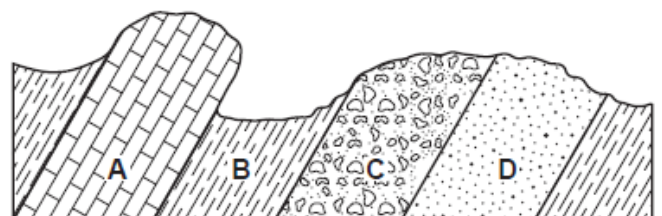
Why did these caverns and sinkholes form?

- A) **The bedrock chemically reacted with acidic groundwater.**
 B) This type of bedrock contained large amounts of oxygen and silicon.
 C) Glacial deposits altered the shape of the bedrock.
 D) Crustal uplift formed gaps in the bedrock.

11. Landscapes will undergo the most chemical weathering if the climate is

- A) cool and dry B) cool and wet
 C) warm and dry **D) warm and wet**

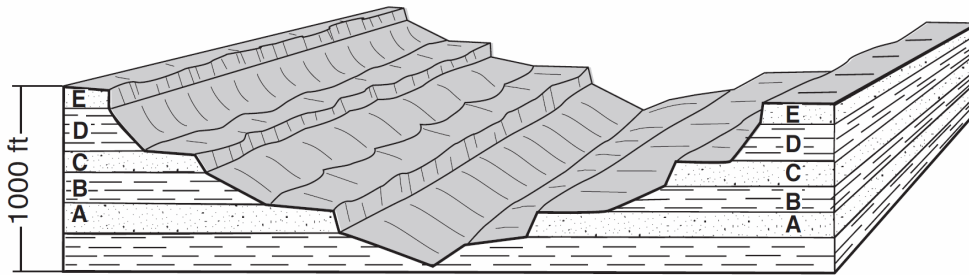
12. The cross section below represents an outcrop of sedimentary rock layers exposed on Earth's surface. Rock layers A, B, C, and D are labeled.



Which rock layer shows the greatest resistance to weathering and erosion?

- A) A B) B C) C D) D

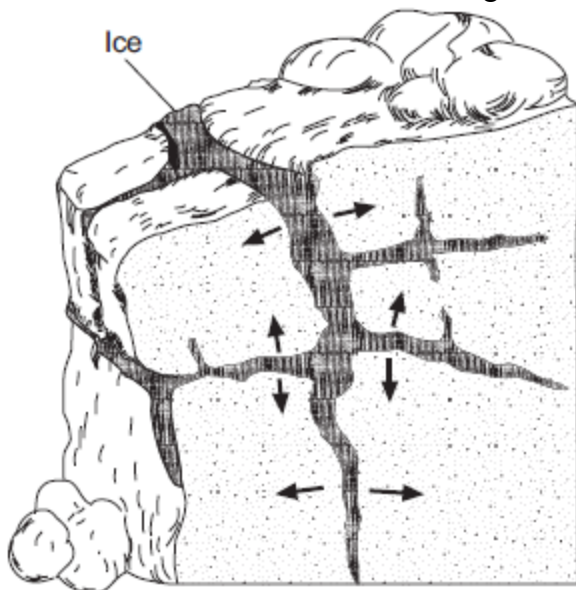
13. The block diagram below shows a cross section of a landscape. Letters *A*, *B*, *C*, *D*, and *E* represent different rock layers.



Which rock layers appear to be most resistant to weathering?

- A) *A* and *B* B) *B* and *D* C) *C*, *D*, and *E* D) *A*, *C*, and *E*

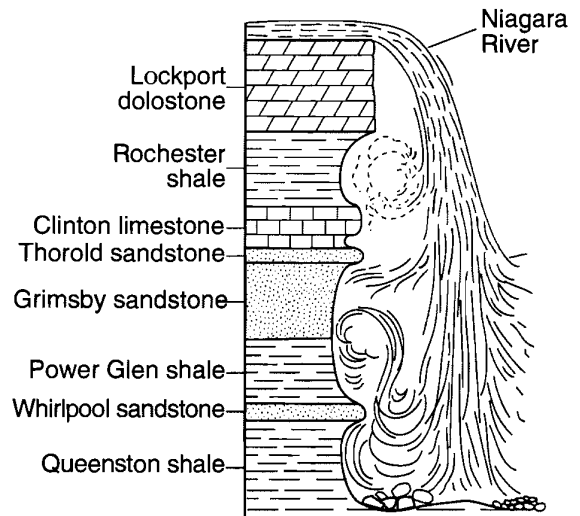
14. The diagram below shows granite bedrock with cracks. Water has seeped into the cracks and frozen. The arrows represent the directions in which the cracks have widened due to weathering.



Which statement best describes the physical weathering shown by the diagram?

- A) **Enlargement of the cracks occurs because water expands when it freezes.**
 B) This type of weathering occurs only in bedrock composed of granite.
 C) The cracks become wider because of chemical reactions between water and the rock.
 D) This type of weathering is common in regions of primarily warm and humid climates.

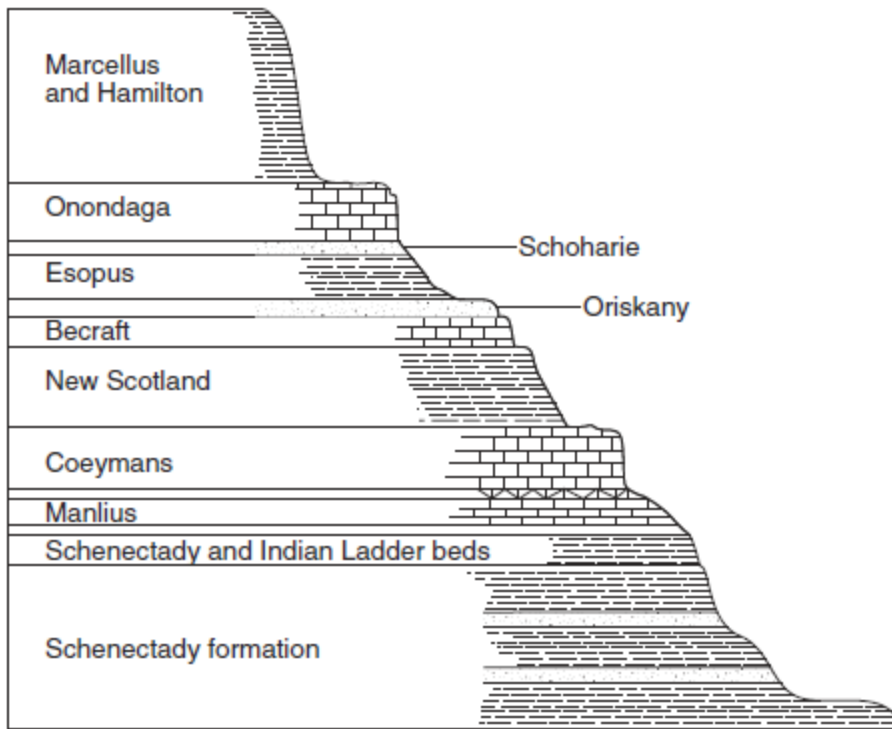
15. The generalized cross section below shows the sedimentary rock layers at Niagara Falls in western New York State.



Which rock layer appears to be most resistant to weathering and erosion?

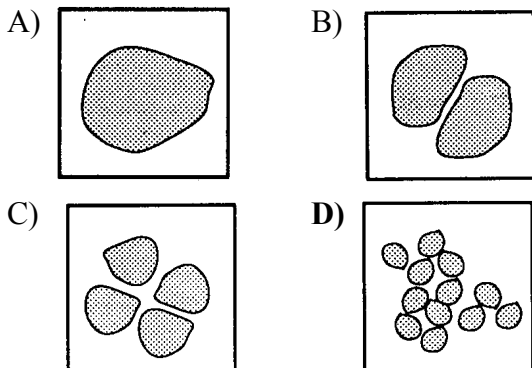
- A) **Lockport dolostone**
 B) Rochester shale
 C) Grimsby sandstone
 D) Queenston shale
16. As a particle of sediment in a stream breaks into several smaller pieces, the rate of weathering of the sediment will
- A) decrease due to a decrease in surface area
 B) decrease due to an increase in surface area
 C) increase due to a decrease in surface area
 D) **increase due to an increase in surface area**

17. Base your answer to the following question on the cross section below, which shows the bedrock of a portion of the Helderberg Escarpment, located in Thacher State Park near Albany, New York. The rock formations are identified by name.

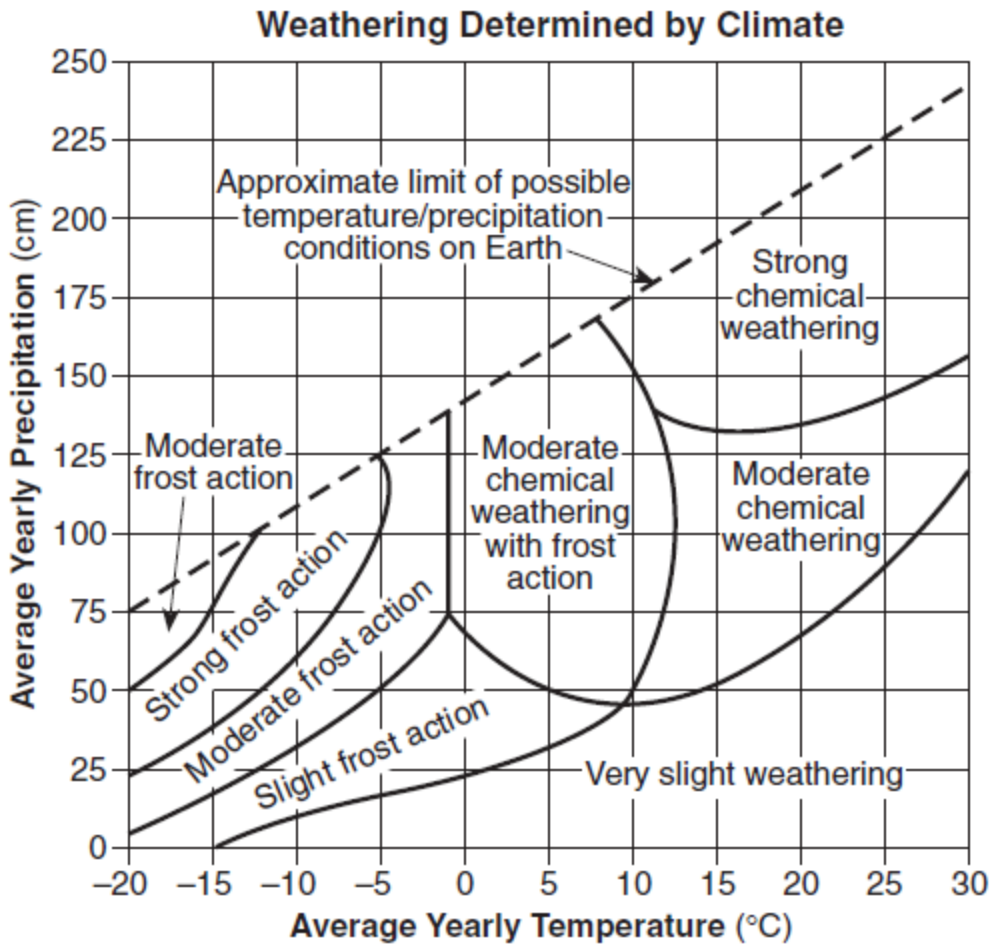


What is the main factor that causes the bedrock to weather at different rates?

- A) elevation above sea level
B) **mineral composition**
C) age of rock layers
D) environment of formation
18. The four limestone samples illustrated below have the same composition, mass, and volume. Under the same climatic conditions, which sample will weather fastest?



Base your answers to questions 19 and 20 on the graph below, which shows the effect that average yearly precipitation and temperature have on the type of weathering that will occur in a particular region.



19. Which type of weathering is most common where the average yearly temperature is 5°C and the average yearly precipitation is 45 cm?
- A) moderate chemical weathering
 - B) very slight weathering
 - C) moderate chemical weathering with frost action
 - D) slight frost action**
20. The amount of chemical weathering will increase if
- A) air temperature decreases and precipitation decreases
 - B) air temperature decreases and precipitation increases
 - C) air temperature increases and precipitation decreases
 - D) air temperature increases and precipitation increases**

Answer Key
Weathering Erosion Deposition

1. **D**
 2. **C**
 3. **B**
 4. **B**
 5. **C**
 6. **B**
 7. **D**
 8. **D**
 9. **B**
 10. **A**
 11. **D**
 12. **A**
 13. **D**
 14. **A**
 15. **A**
 16. **D**
 17. **B**
 18. **D**
 19. **D**
 20. **D**
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