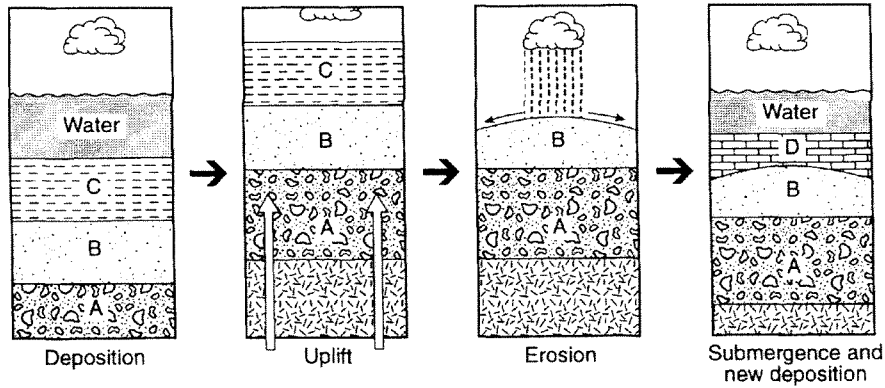


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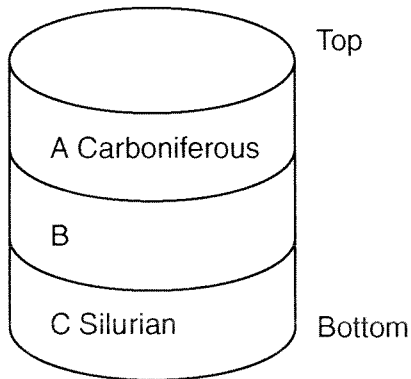
1. The diagrams below show the sequence of events that formed sedimentary rock layers *A*, *B*, *C*, and *D*.



This sequence of events best illustrates the

- 1) formation of a buried erosional surface (unconformity)
- 2) movement of rock layers along a fault between layers *B* and *D*
- 3) overturning of rock layers
- 4) metamorphism of sandstone (layer *B*) into quartzite

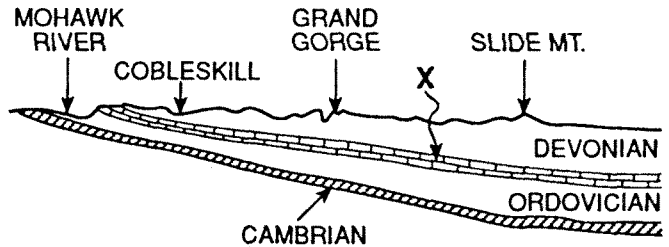
2. The geologic drill core below shows bedrock layers *A*, *B*, and *C* that have not been overturned. The geological ages of layers *A* and *C* are shown.



What is the geologic age of layer *B*?

- 1) Cambrian
- 2) Ordovician
- 3) Devonian
- 4) Permian

3. The diagram below shows a geologic cross section of a portion of a landscape region.

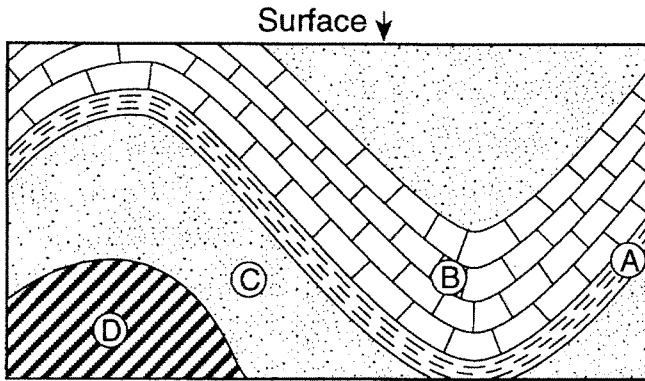


What is the probable geologic age of sedimentary rock unit *X*?

- 1) Cambrian
- 2) Precambrian
- 3) Permian
- 4) Silurian

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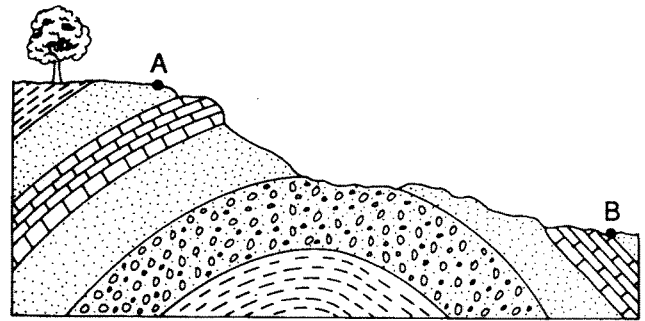
4. Sedimentary rock layers *A* through *D* in the cross section below have not been overturned.



Which rock layer is the oldest?

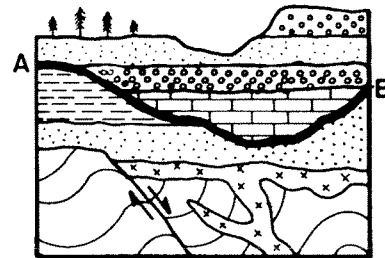
- 1) *A*
 - 2) *B*
 - 3) *C*
 - 4) *D*
5. Unless a series of sedimentary rock layers has been overturned, the bottom rock layer usually
- 1) contains fossils
 - 2) is the oldest
 - 3) contains the greatest variety of minerals
 - 4) has the finest texture
6. Which type of rock is most likely to contain fossils?
- 1) granite
 - 2) gneiss
 - 3) shale
 - 4) metaconglomerate

7. The diagram below shows a geologic cross section of a portion of the Earth's crust that has not been overturned.



An observer travels across the surface from point *A* to point *B*, measuring the age of the surface bedrock. The observer finds the age of the surface bedrock to

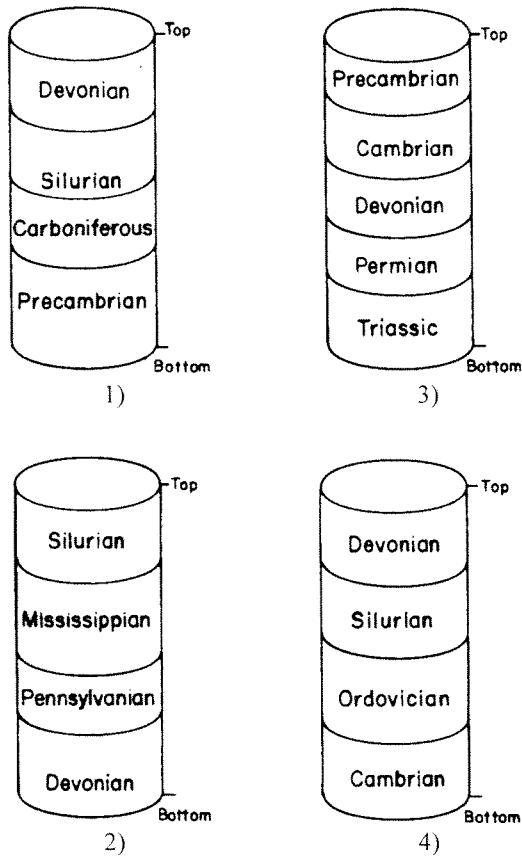
- 1) decrease, only
 - 2) increase, only
 - 3) decrease, then increase
 - 4) increase, then decrease
8. What process most directly caused the formation of the feature shown by line *AB* in the geologic cross section below?



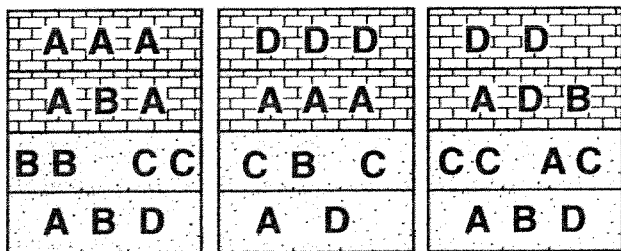
- 1) erosion
- 2) faulting
- 3) igneous intrusion
- 4) folding

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9. A deep drill core was taken through the bedrock at Ithaca, New York. Assume the rock layers have not been overturned and that no unconformity exists. Which diagram best represents the drill core obtained?



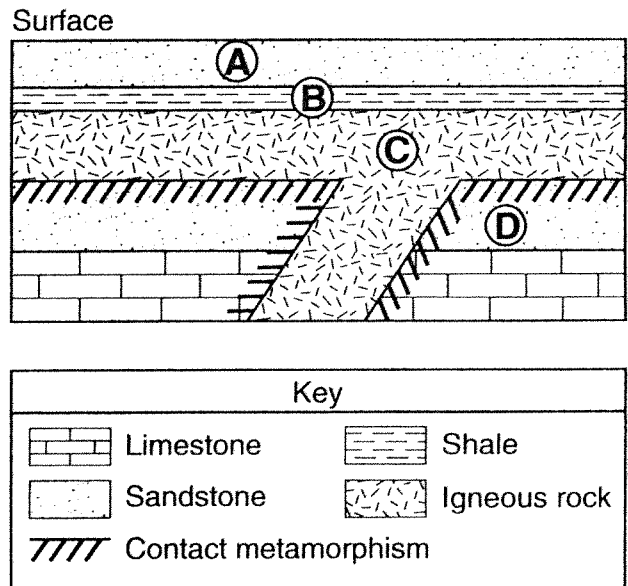
10. The three cross sections of sedimentary bedrock shown below represent widely separated surface exposures of layers that contain fossils. Letters *A*, *B*, *C*, and *D* represent four different marine fossils found in these rock layers.



Which letter best represents an index fossil?

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

11. The diagram below shows a geologic cross section. Letters *A* through *D* represent different rock units.



Which sequence correctly shows the age of the lettered rock units, from oldest to youngest?

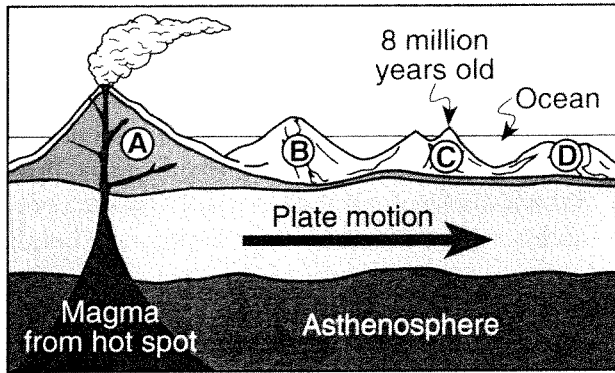
- 1) A → B → C → D
- 2) C → D → A → B
- 3) D → B → A → C
- 4) D → C → B → A

12. Which pair of index fossils can be found in Ordovician bedrock?

- 1) and
- 2) and
- 3) and
- 4) and

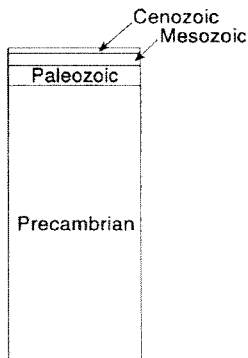
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13. The cross section below shows the direction of movement of an oceanic plate over a mantle hot spot, resulting in the formation of a chain of volcanoes labeled A, B, C, and D. The geologic age of volcano C is shown.

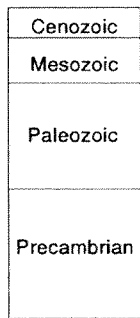


What are the most likely geologic ages of volcanoes B and D?

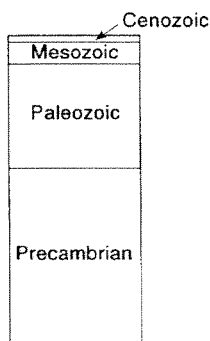
- 1) B is 5 million years old and D is 12 million years old.
 - 2) B is 2 million years old and D is 6 million years old.
 - 3) B is 9 million years old and D is 9 million years old.
 - 4) B is 10 million years old and D is 4 million years old.
14. Which column best represents the relative duration of the major intervals of geologic history?



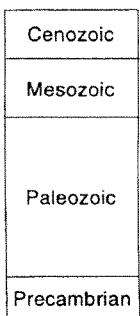
1)



3)



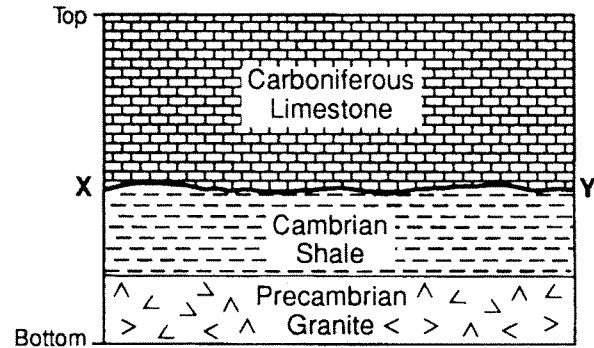
2)



4)

15. When did the intrusion of the Palisades Sill occur?
- 1) before the Appalachian Orogeny
 - 2) during the late Triassic Period
 - 3) during the Paleozoic Era
 - 4) after the extinction of dinosaurs and ammonites

16. The diagram below shows a cross-sectional view of part of the Earth's crust.



What does the unconformity (buried erosional surface) at line *XY* represent?

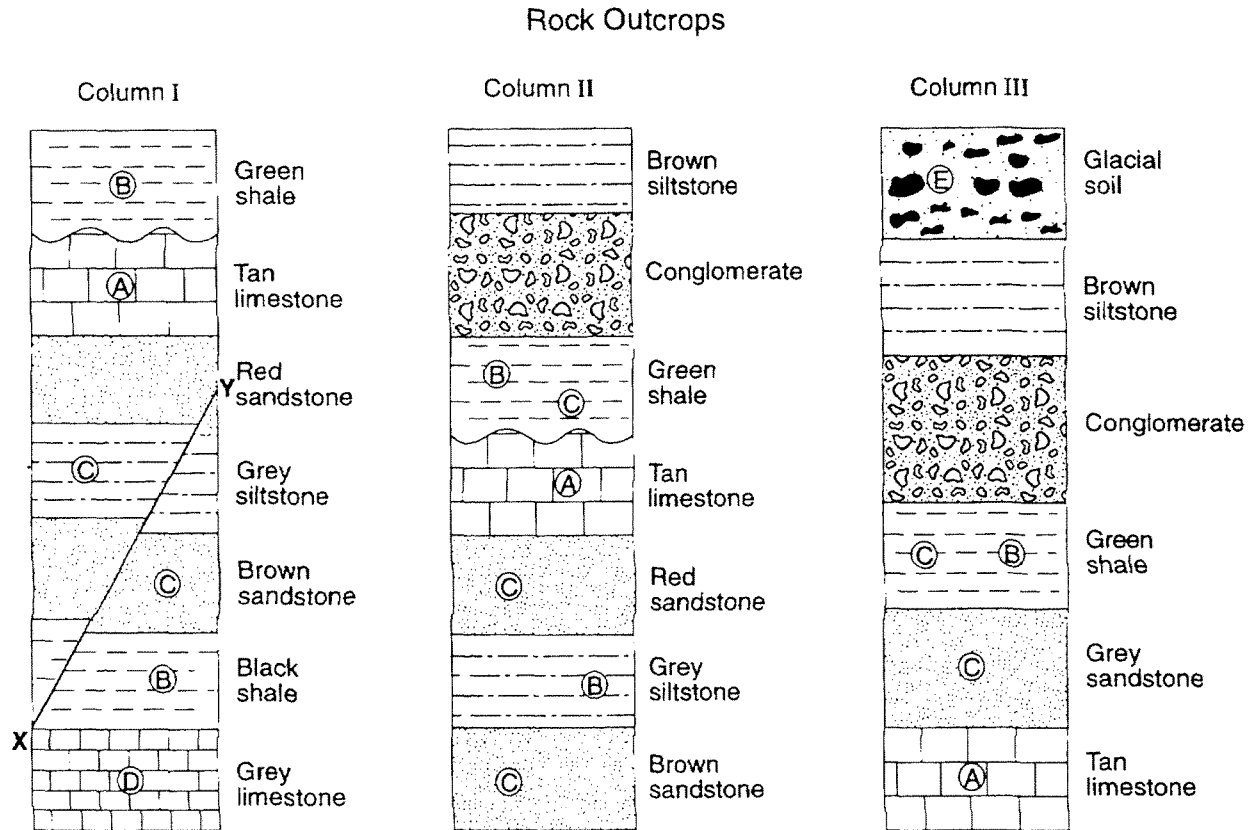
- 1) an area of contact metamorphism
 - 2) a time gap in the rock record of the area
 - 3) proof that no deposition occurred between the Cambrian and Carboniferous periods
 - 4) overturning of the Cambrian and Carboniferous rock layers
17. Which geologic event most likely caused the Appalachian Mountains to form?
- 1) the melting of a subducted oceanic plate
 - 2) the collision of North America and Africa
 - 3) the eruption of an ancient volcanic mountain chain
 - 4) the massive erosion and deposition of Mesozoic rocks

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18. What is the geologic age of the salt and gypsum deposits found in New York State bedrock?
- 1) Triassic
 - 2) Devonian
 - 3) Silurian
 - 4) Cambrian
19. A sample of wood found in an ancient tomb contains 25% of its original carbon-14. The age of this wood sample is approximately
- 1) 2,800 years
 - 2) 5,700 years
 - 3) 11,400 years
 - 4) 17,100 years
20. An ancient bone was analyzed and found to contain carbon-14 that had decayed for nearly two half-lives. Approximately how old is the bone?
- 1) 1,400 years
 - 2) 2,800 years
 - 3) 5,600 years
 - 4) 11,000 years
21. An igneous rock contains one-half of its original amount of potassium-40. The age of the igneous rock is closest to
- 1) 0.7×10^9 years
 - 2) 1.4×10^9 years
 - 3) 2.1×10^9 years
 - 4) 2.8×10^9 years
-

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Base your answers to questions 22 through 26 on the diagram below which shows three geologic columns representing widely separated rock outcrops. Letters *A* through *E* represent fossils found in the outcrops. Line *XY* represents a fault in column I. The layers have not been overturned.



22. What is the oldest layer shown?

- 1) glacial soil
- 2) brown sandstone
- 3) tan limestone
- 4) grey limestone

23. When did fault *XY*, located in column I, most likely occur?

- 1) before the formation of the grey limestone
- 2) during the formation of the grey siltstone
- 3) during the formation of the black shale
- 4) after the formation of the red sandstone

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24. Which rock would most likely be produced by the metamorphism of the grey limestone?
- 1) quartzite
 - 2) slate
 - 3) marble
 - 4) gneiss
25. The wavy line located between the green shale and the tan limestone layers in columns I and II most likely represents
- 1) contact metamorphism
 - 2) a volcanic ash layer
 - 3) a buried erosional surface
 - 4) an igneous intrusion
26. Fossil *A*, in the tan limestone layer, is a fossil of the first known coral. This tan limestone layer was most likely deposited during which geologic time interval?
- 1) Precambrian
 - 2) Paleozoic
 - 3) Mesozoic
 - 4) Cenozoic
-

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Answer Key
Practice Earth History [Jun 24, 2013]

1. 1

2. 3

3. 4

4. 4

5. 2

6. 3

7. 4

8. 1

9. 4

10. 3

11. 4

12. 1

13. 1

14. 1

15. 2

16. 2

17. 2

18. 3

19. 3

20. 4

21. 2

22. 4

23. 4

24. 3

25. 3

26. 2
