1. [ST8.2]

Some processes that shape Earth's surface are slow. Other processes are rapid.
Which statement describes a rapid change?

A. Glaciers melt and form rivers

B. Wind weathers rocks into sand

C. Earthquakes move land and rocks

D. Rivers carry sediment and build deltas

2 [ST8.2]

Mount Rushmore is in South Dakota. This statue was carved more than 60 years ago. The faces on this granite are slowly wearing away.
Which natural process causes this wearing away?

A. Earthquakes

B. Water from floods

C. Blowing wind from rain

D. Lava flowing from volcanoes

3. [ES 3]

In some areas, magma chambers exist close to Earth's surface. Water seeping into the ground becomes heated by the rock overlying these magma chambers.
What is most likely to occur when the heated water under pressure rises back toward the surface through fractured rock?

A. plate subduction

B. geyser formation

C. volcanic eruption

D. earthquake activity

4. [ES 3]

Monte Bolca is located high in the mountains of northern Italy. This site is one of the world's largest deposits of coral reef fish fossils. There are fossils of more than 160 fish species dating back 49 million years. These fossils provide evidence of the environment in which the coral fish lived and died.
Which statement is consistent with this evidence and explains how ancient coral reef fossils can be found high in the mountains far from any sea?

A. huge tidal wave pushed marine life up into the mountains.

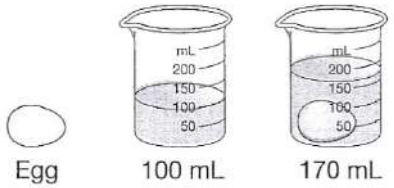
B. Prehistoric man carried fish into the mountains from the sea.

C. Fish were thrown into the mountains by a tremendous volcanic explosion.

D. Land that was uplifted to form the mountain was once covered by the sea

5. [SK8.1]

The diagram shows the setup for an investigation. Study the diagram. Which statement describes an observation that could be made in this investigation?



A. The egg must be fresh.

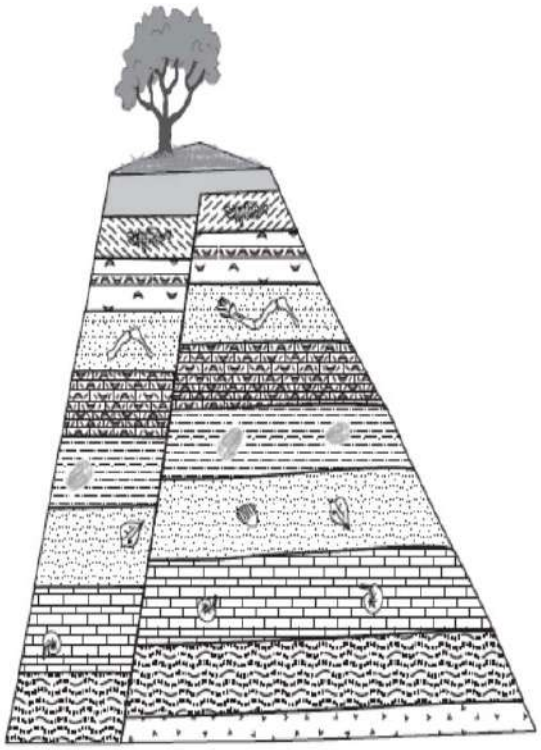
B. The egg has a volume of 70 mL.

C. When the egg gets rotten, it will float.

D. Fresh eggs are denser than rotten eggs.

6. [ES3]

The paleontologist collected samples from a site that has the same rock layers as
the original site but is located 5 kilometers away



Comparing the original site with the site shown above, what geologic process
accounts for the difference in the arrangement of the rock layers at the two sites?

A. erosion

B. faulting

C. folding

D. weathering

7. [ES]

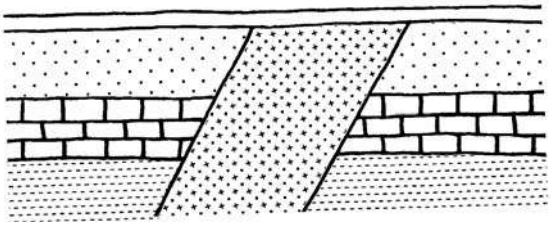
The paleontologist examined 10 sites in all. She made detailed drawings of these sites and removed sample fossils. She labeled the sample fossils with the site number, location and layer in which the fossil was found. The paleontologist returned to the lab and discovered that some of the fossil samples were missing labels.

In your Answer Document, describe two different ways the lack of labels for these samples will affect the interpretation of the data. (2 points)

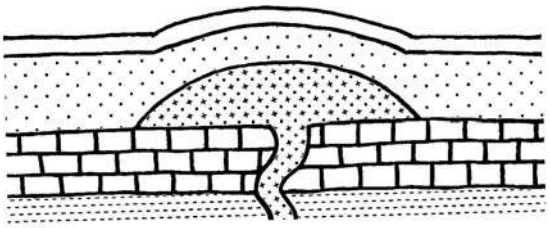
8. [ES8.14]

The law of superposition explains that older geologic layers always lie under younger layers unless a later process disturbs this arrangement. Scientists must be very careful to make sure that nothing has disturbed the layers of rock before they apply the law of superposition. For example, faulting, folding, and igneous intrusions can cause younger layers to be under older layers. Which of the following diagrams shows how faulting can cause younger layers to be found below older layers.

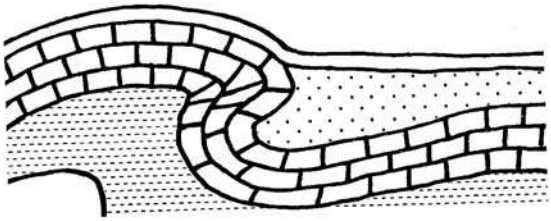
A.



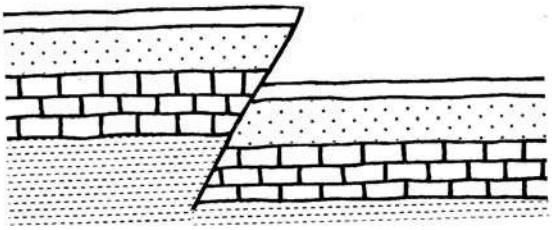
B.



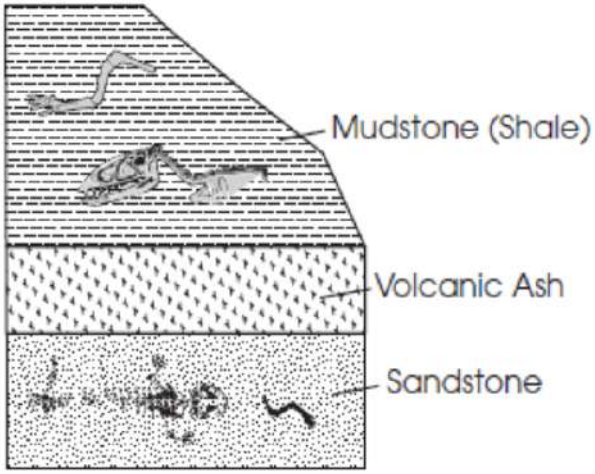
C.



D.



9. [ES]
Use the diagram showing a cross section of a hill and the information below to answer question



Scientists see three layers of rock exposed on the side of a hill. The bottom layer is sandstone with fossils of a certain species of reptile found only in this geographic location. The middle layer is volcanic ash. The top layer is mudstone (shale) with fossils of a different species of reptile.
The fossil evidence supports which hypothesis about the extinction of the older reptile species?

A. The older reptile species went extinct because sea levels rose and flooded its habitat.

B. The older reptile species went extinct because a predator was introduced into the environment.

C. The older reptile species went extinct because it could not compete with the younger reptile species.

D. The older reptile species went extinct because a volcanic eruption caused the environment to change.

10. [ES8.15]

A chain of mountains is located near the western coast of a continent next to a plate boundary. Which sentence describes how the mountains formed?

A. As a continental plate and an oceanic plate slid past each other, a fault formed, and the mountains were exposed by earthquake movement.

B. As a continental plate and an oceanic plate collided, part of the oceanic plate subducted, and volcanoes erupted, forming the mountains.

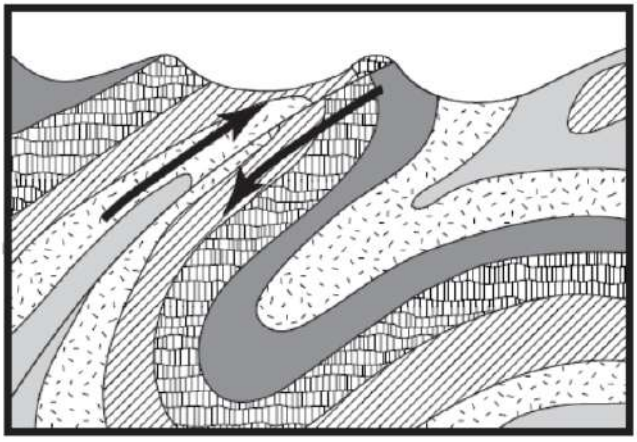
C. As two oceanic plates collided, one of the oceanic plates subducted, and the other plate rose to the surface, forming folded mountains.

D. As two oceanic plates moved apart, new seafloor was produced, forming a ridge.

11. [ES]

The cross-section below shows the orientation of rock layers in a given area.

Geologic Cross-section



What geologic event most likely caused the folding and faulting of these layers?

A. tectonic activity

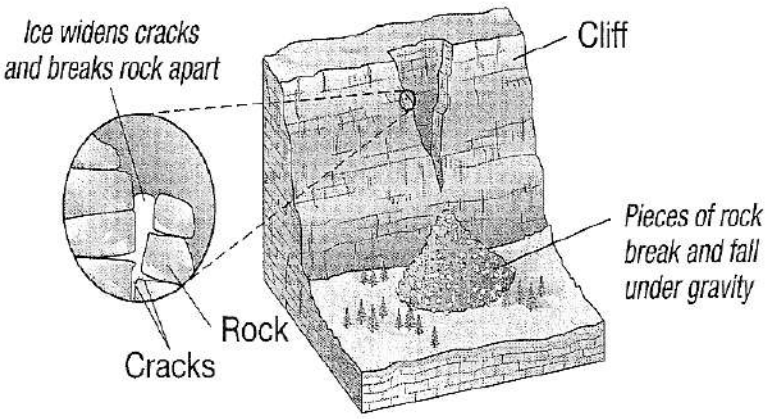
B. glacial advance

C. magnetic reversal

D. seafloor spreading

12. [ES8.13]

What does the diagram to the right illustrate?



A. erosion

B. deposition

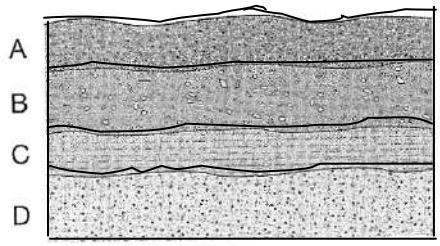
C. mechanical weathering

D. chemical weathering

---

13. [ES8.9]

The diagram shows layers of sedimentary rock. Assuming that this rock formation is undisturbed, which layer is oldest?



A. layer A

B. layer B

C. layer C

D. layer D

14. [ES8.13]

Which of these is an example of chemical weathering?

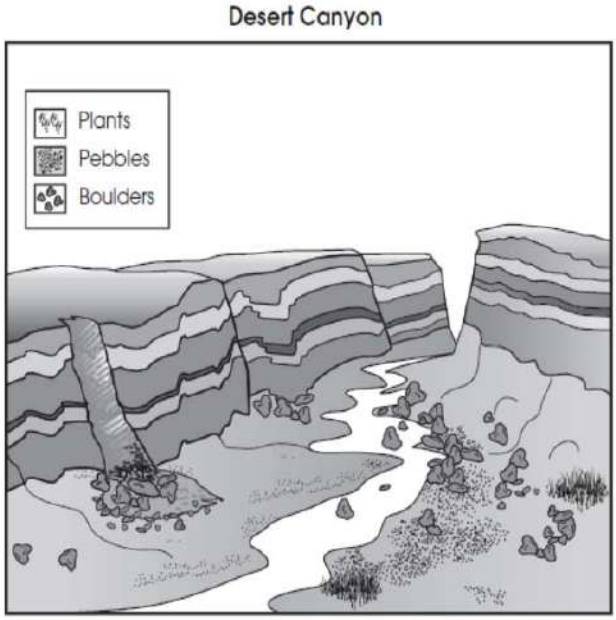
A. Mosses wedge their roots into crevices in rock, pushing it apart.

B. Acid rainwater seeps into the ground and dissolves limestone.

C. Rocks are pulled by gravity to the bottom of a mountain.

D. Rock pieces carried by river water abrade the rocks in the riverbed.

Use the information below to answer question 6.



15. [ES]

The picture shows a stream flowing through a desert canyon. The canyon was shaped by natural processes.

In your Answer Document, identify a slow process that could have helped shape the canyon. Describe evidence of this process shown in the picture.
Then, identify a rapid process that could have helped shape the canyon.
Describe evidence of this process shown in the picture. (4 points)

STOP

9


STOP