

## Released SOL Test Questions

### Sorted by Topic

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## SOL 5.7 Earth's Constantly Changing Surface

The student will investigate and understand how Earth's surface is constantly changing. Key concepts include

- identification of rock types
- the rock cycle and how transformations between rocks occur
- Earth history and fossil evidence
- the basic structure of Earth's interior
- changes in Earth's crust due to plate tectonics
- weathering, erosion, and deposition; and
- human impact

## EARTH LAYERS

1. Which **layer of Earth** is the thinnest?

(2011-34)

- Inner core
- Crust**
- Outer core
- Mantle

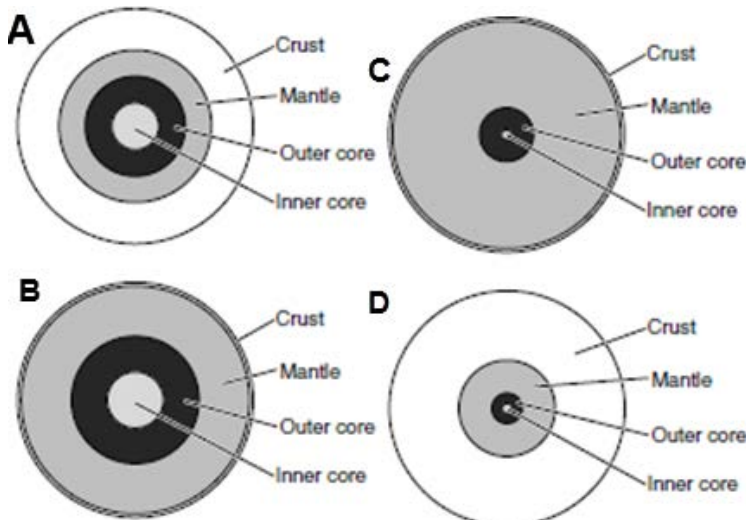
2. Earth is composed of four layers. Many scientists believe that as Earth cooled, the denser materials sank to the center and the less dense materials rose to the top. The **least dense layer** is the —

(2010-28)

- crust**
- mantle
- outer core
- inner core

3. Which of these best represents the Earth's structure? (b)

(2005-26)



4. Which of these best describes the relationship between Earth's **layers**?

(2007-12)

- The hottest layers are closest to the core.**
- The more liquid layers are closest to the crust.
- The lightest layers are closest to the core.
- The more metallic layers are closest to the crust.

5. What layer of Earth is located just below the crust?

(2007-26)

- Inner core
- Mantle**
- Continental shelf
- Outer core

6. Which of these Earth layers is the thinnest?

(2003-24)

- The inner core
- The outer core
- The mantle
- The crust**

## ROCKS

7. **Pumice** is formed when lava from a volcano cools. Which rock type is pumice?

(2011-26)

- Gaseous rock
- Igneous rock**
- Sedimentary rock
- Metamorphic rock

8. Granite is a hard material and forms from cooling magma. Granite is a type of —

(2009-25)

- lava stone
- igneous rock**
- volcanic dust
- sedimentary rock

9. A student made observations of four rock samples. Which of these observations most likely describes a sedimentary rock?

(2007-30)

- Sample 1 has bands of light and dark crystals.
- Sample 2 has pink, gray, and white crystals grown together.
- Sample 3 is made up of one huge, pale pink crystal.
- Sample 4 is made up of layers of sand grains cemented together.**

10. Lava cools to form —

(2006-16)

- igneous rock**
- sedimentary rock
- metamorphic rock
- sandstone

11. Which of these can be mined from Earth and used as an energy source?

(2008-22)

- a. Coal
- b. Gravel
- c. Granite
- d. Limestone

## VOLCANOS, EARTHQUAKES

12. Which of these often occur as the Earth's *crustal plates* move?

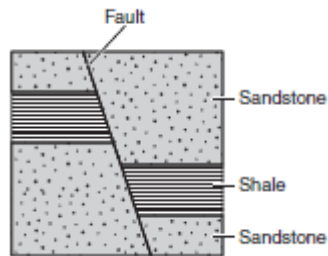
(2011-20)

- a. Hurricanes
- b. Floods
- c. Tornadoes
- d. Earthquakes

13. The shale layers in the drawing were broken and separated by movement along the fault. What also most likely occurred as these rock layers moved along the fault?

(2007-24)

- a. Formation of deep caves
- b. Erosion of lower layers
- c. Volcanic eruption
- d. Earthquake



14. Which surface feature is most likely caused by the movement of the Earth's crustal plates?

(2001-24)

- a. Canyons
- b. Deltas
- c. Lakes
- d. Volcanoes

15. To learn about the temperature inside the Earth's crust, scientists study —

(2002-23)

- a. earthquakes
- b. fossil formations
- c. minerals on the ocean floor
- d. volcanoes

16. The most common cause of earthquakes is —

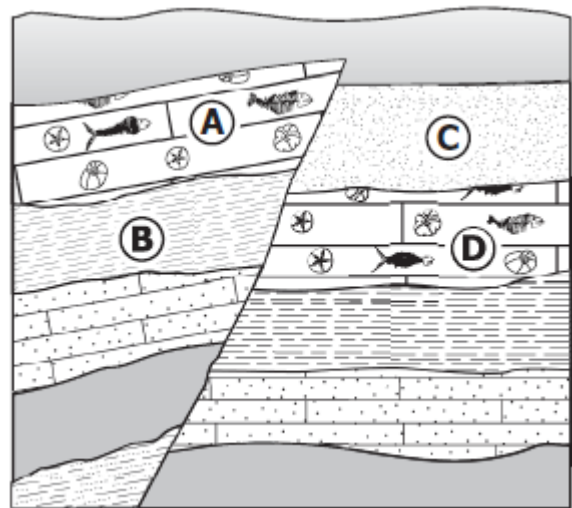
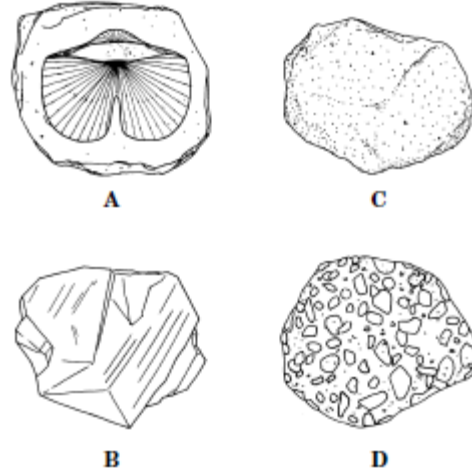
(2002-16)

- a. the sinking of the ocean floor
- b. movements in the Earth's crust
- c. giant tidal waves called tsunamis
- d. unequal heating of the atmosphere

## FOSSILS

17. Rocks which formed in areas once covered by oceans often contain fossils of animals which lived in the sea. Which one of these rocks contains fossils of ocean animals? (a)

(2001-37)



18. Layer A probably formed in an ocean. Which of these is the best clue that layer A formed in an ocean?

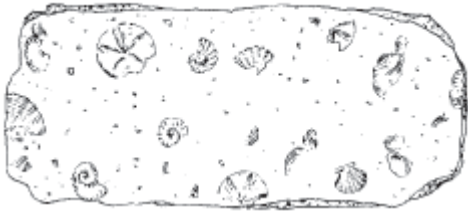
(2008-13)

- a. The thickness of the layer
- b. The type of fossils in the layer
- c. The position of the layer
- d. The density of the layer

19. A scientist found a *fossil* of an organism that had gills. When the organism was living, the area in which it lived was most likely covered by —

(2011-16)

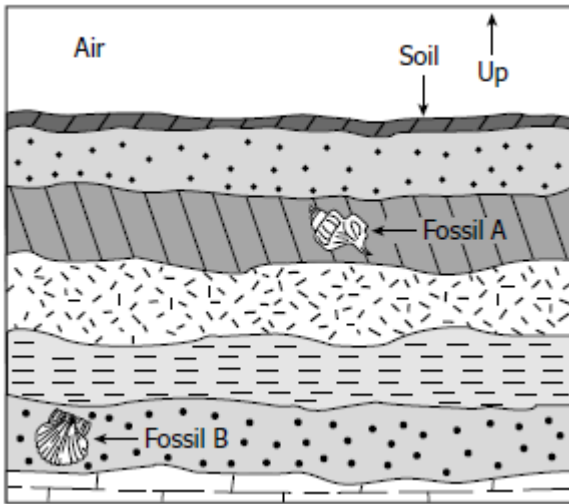
- a. forest
- b. grassland
- c. bare rock
- d. water



20. The picture shows a limestone building block. Which of these best shows that the limestone was formed from ocean sediments?

(2007-1)

- a. The position of the fossils
- b. The number of fossils
- c. The type of fossils
- d. The size of the fossils



21. When comparing fossil A to fossil B, which is most likely correct?

(2010-17)

- a. Fossil B is older.
- b. Fossil B is larger.
- c. Only fossil B is metamorphic.
- d. Only fossil B was once an organism.

22. The presence of an animal fossil in a rock gives evidence of —

(2009-31)

- a. what hunting behaviors the animal used
- b. how many babies the animal had
- c. exactly when the animal was born
- d. the time period the animal lived in

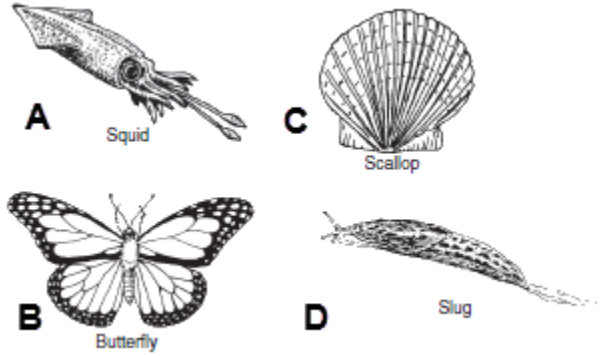
23. Which part of a dinosaur is least likely to be found as a fossil?

(2005-10)

- a. Bones
- b. Claws
- c. Teeth
- d. Muscle

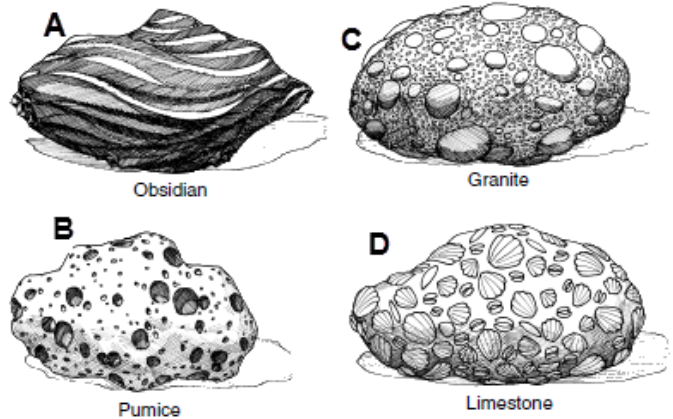
24. Which of these animals is most likely to form a fossil? ©

(2007-4)



25. Which of the following rock samples contains fossils? (d)

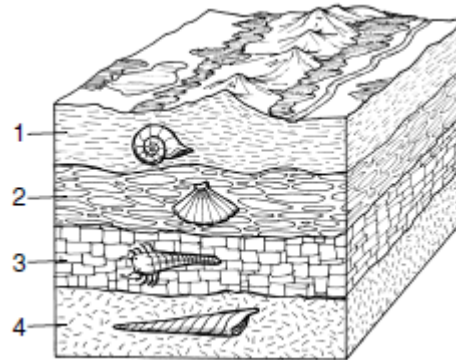
(2005-18)



26. Geologists learn what organisms were like in the past by studying —

(2003-7)

- a. minerals
- b. water
- c. fossils
- d. atmosphere

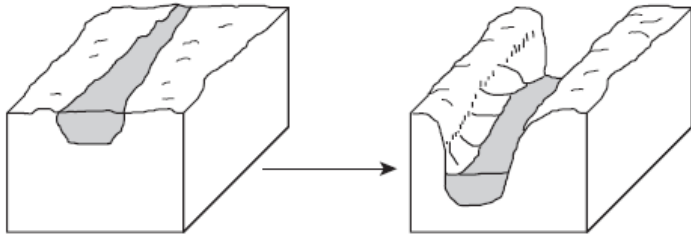


27. The diagram shows layers of sedimentary rocks and examples of their fossils. Which layer contains the oldest fossils?

(2004-1)

- a. 1
- b. 2
- c. 3
- d. 4

# EROSION, WEATHERING



28. The diagram above shows the changes to a **land surface** caused by a river flowing through the area for many years. Which process caused the changes to the surface?

(2011-28)

- a. Condensation
- b. **Erosion**
- c. Evaporation
- d. Pollution

29. Which one of the following events occurs in the formation of sedimentary rock?

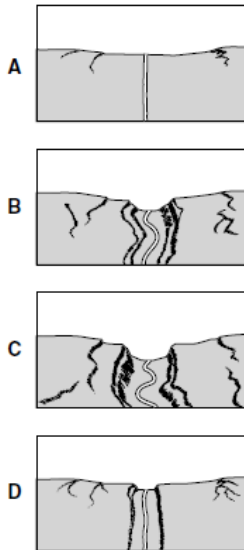
(2002-32)

- a. Crystallization
- b. Melting
- c. Cooling
- d. **Weathering**

30. The diagrams show how a river can cause the erosion of land. Which sequence of letters best shows how the river has aged from youngest to oldest?

(2002-38)

- a. C,A,B,D
- b. B,A,C,D
- c. **A,D,B,C**
- d. D,A,B,C



31. Sand dunes in the desert are caused by erosion from —

(2006-9)

- a. rain
- b. glaciers
- c. streams
- d. **wind**

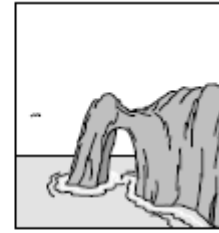
32. This landform was probably caused by —

(2003-8)

- a. high tides
- b. **wind**
- c. human activity
- d. running water



A



C



B



D

33. Wave action against solid rock can cause changes in the rock structure. What is the correct sequence of erosion of the above rock surface?

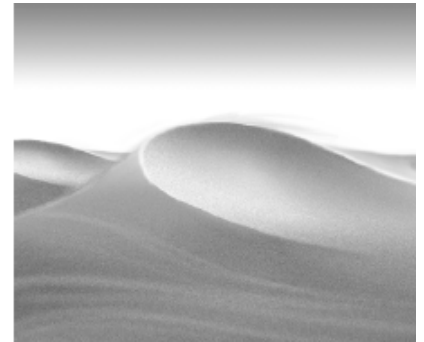
(2001-6)

- a. A,B,C,D
- b. **D,B,C,A**
- c. B,C,D,A
- d. C,D,B,A

34. Which action can be used to prevent soil erosion?

(2004-39)

- a. **Planting grass**
- b. Raising grazing animals
- c. Digging ditches
- d. Spraying with water



35. Which causes rocks in a stream to be smooth?

(2004-7)

- a. **Weathering**
- b. Air currents
- c. Earthquakes
- d. Movement of fish

36. The top layers of soil are important because they —

(2009-14)

- a. prevent earthquakes
- b. **give plants nutrients**
- c. protect the bedrock
- d. make walking easier

# HUMAN IMPACT

37. Which of these is not considered ocean pollution?

(2004-23)

- a. Dumping garbage
- b. Artificial reefs
- c. Oil spills
- d. Chemical runoff

38. Which of these human activities most relies on high-quality soil?

(2010-1)

- a. Hiking
- b. Hunting
- c. Coal mining
- d. Growing crops

39. A student is hiking through a forest taking pictures for science class. Which picture would most likely be used as an example of human impact on Earth?

(2009-10)

- a. A trail built by cutting down trees
- b. A river eroding away the riverbank
- c. A bird nest made of dead branches
- d. A group of butterflies landing on flowers

40. Which of these activities is most likely to have a positive impact on the environment of Earth?

(2008-36)

- a. Expanding neighborhoods
- b. Building factories
- c. Constructing highways
- d. Creating nature preserves