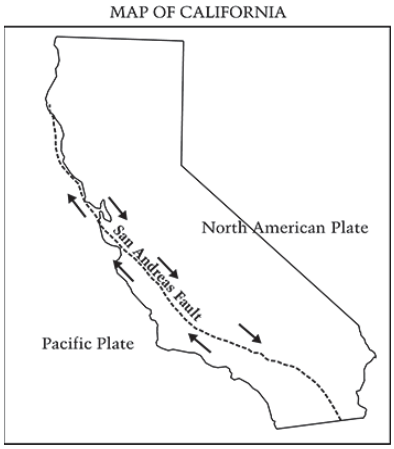
Name: _____
Date: _____ Class: _____

Earth Systems, Structures and Processes

1. The diagram below shows the movement of the Pacific and North American plates along the San Andreas fault located in California.



Why do earthquakes occur near the San Andreas fault? (6.E.2.2)

A One plate slowly pushes the other plate up.
B A trench is created as one plate slides under the other plate.
C Portions of the plates get stuck and then suddenly loosen and move.
D One plate pushes hard enough to reverse the motion of the other plate.

2. Roger poured water over a pile of sand. Some of the sand washed away. This process is similar to which of the following? (6.E.2.3)

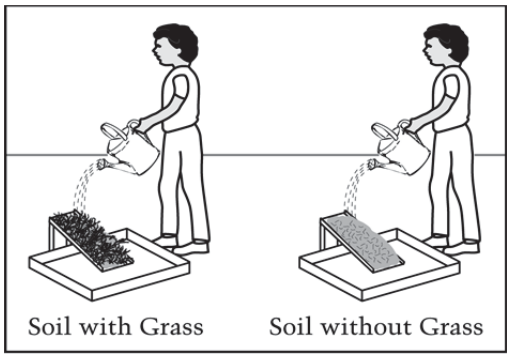
A The eruption of a volcano
B The erosion of the walls of a canyon
C The uplifting of mountain ranges
D The forming of dunes or mounds in a desert

3. Rafael lives near a road at the bottom of a hill. His parents are concerned that soil will wash off the hill and rocks will fall onto the road. Rafael conducts an investigation to find out if grass growing on a hillside will help stop soil erosion. He collects two samples of the same size and type of soil. One sample of soil has grass growing on it and the other does not. He places each sample of soil in a small tray.

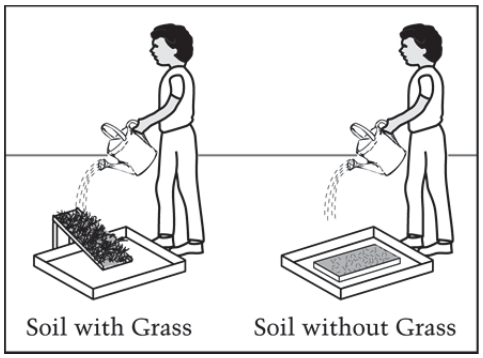
   For his investigation, Rafael pours the same amount of water onto both samples of soil. He uses a large tray to collect water that may flow through the soil.

Which practice shows the best way for Rafael to set up this investigation? (6.E.2.4)

A



B



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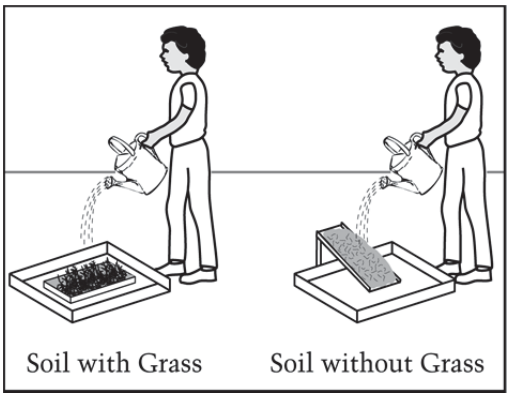
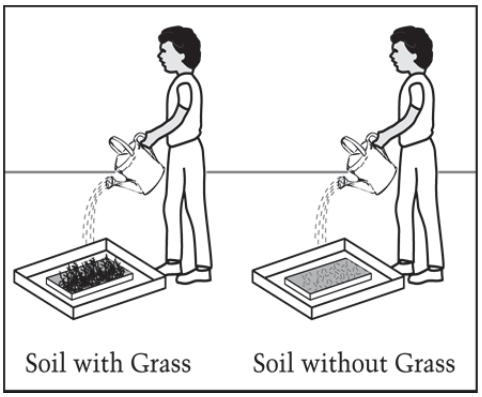


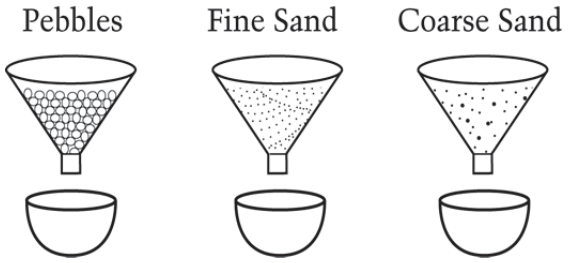
D



4. Rafael lives near a road at the bottom of a hill. His parents are concerned that soil will wash off the hill and rocks will fall onto the road. Rafael conducts an investigation to find out if grass growing on a hillside will help stop soil erosion. He collects two samples of the same size and type of soil. One sample of soil has grass growing on it and the other does not. He places each sample of soil in a small tray. After pouring the water onto both pieces of soil, Rafael makes an observation. The water collected in the tray under the soil with grass looks clearer than the water collected in the tray under the soil without grass. What conclusion can Rafael make from his observation? (6.E.2.4)
    - A The grass helped to hold the soil in place.
    - B The grass helped to move the water through the soil.
    - C The soil without grass was sticky, so more water stayed in the soil.
    - D The soil without grass was loose, so more water stayed in the soil.

5. Which layer of Earth is divided into plates? (6.E.2.1)
    - A Mantle
    - B Crust
    - C Inner core
    - D Outer core

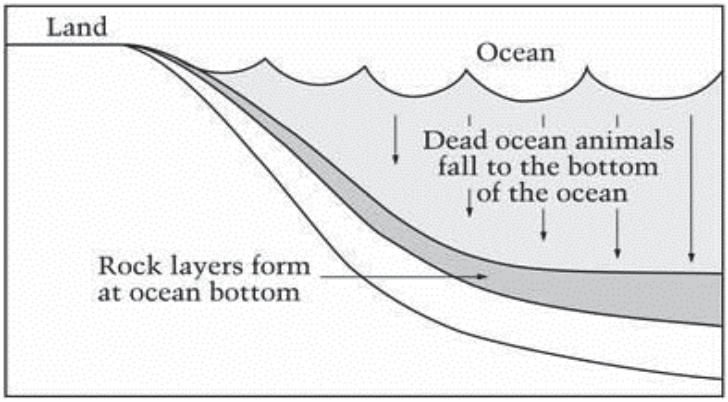
6. Three funnels were filled with equal volumes of pebbles, fine sand, and coarse sand, as shown in the diagram below. The same amount of water was poured into each funnel.



Which correctly lists the order in which the water passed through the funnels, from fastest to slowest? (6.E.2.3)

A Pebbles, fine sand, coarse sand
B Pebbles, coarse sand, fine sand
C Fine sand, coarse sand, pebbles
D Coarse sand, pebbles, fine sand

7. The picture below shows how a type of rock forms at the bottom of the ocean. What type of rock is this? (6.E.2.3)



A Lava
B Igneous
C Sedimentary
D Metamorphic

8. All of the following are examples of erosion **EXCEPT**: (6.E.2.3)

A The wind in the desert blows sand against a rock.
B A glacier picks up boulders as it moves.
C A flood washes over a riverbank, and the water carries small soil particles downstream.
D An icy winter causes the pavement in a road to crack.

9. Beryl finds a rock and wants to know what kind it is. Which piece of information about the rock will best help her to identify it? (6.E.2.3)
    A The size of the rock
    B The weight of the rock
    C The temperature where the rock was found
    D The minerals the rock contains

10. Hot, molten rock deep below Earth's surface is called (6.E.2.3)
    A lava.
    B mantlerock.
    C parent rock.
    D magma.

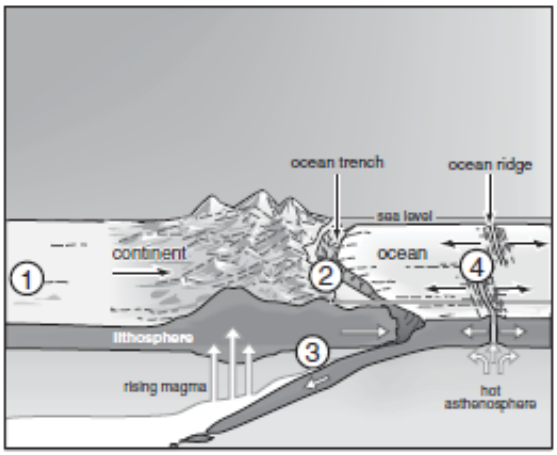
11. The _____ is the hard outer layer of the Earth about 100 km (62.14 mi) thick. (6.E.2.1)
    A crust
    B troposphere
    C atmosphere
    D lithosphere

12. An earthquake is related to a crack in the crust called a(n) (6.E.2.2)
    A fault.
    B fracture.
    C splinter.
    D crevasse.

13. The point beneath Earth's surface where rock breaks under stress and triggers an earthquake is called the (6.E.2.2)
    A syncline.
    B footwall.
    C epicenter.
    D focus.

14. The type of seismic waves that arrive at the surface first and move by compressing and expanding the ground like an accordion are called (6.E.2.2)
    A S waves.
    B P waves.
    C Surface waves.
    D Mercalli waves.

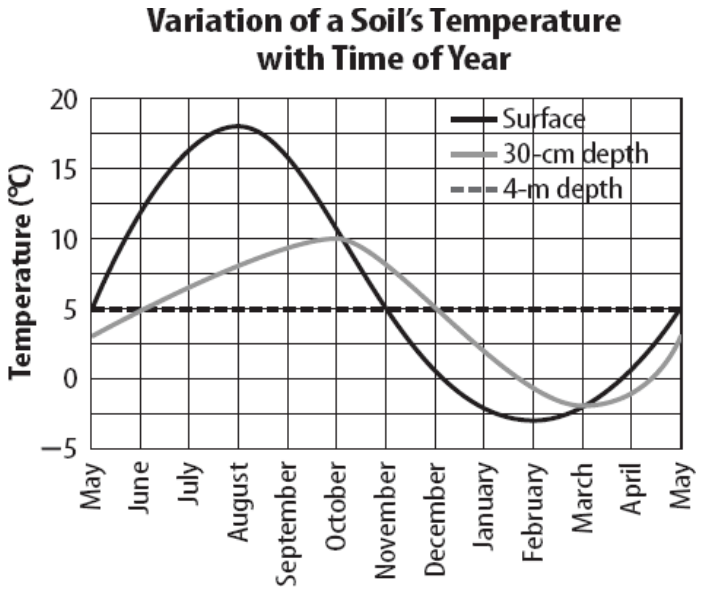
15.



At which location would earthquakes be least likely to occur? (6.E.2.2)

A 1
B 2
C 3
D 4

16. When was the surface soil the warmest? The coldest? (6.E.2.4)



A October; March
B May; November
C August; February
D October; January

17. During a severe drought, which will likely cause the most erosion of a farmland? (6.E.2.3)

A soil creeping downhill
B water runoff
C ice
D wind

18. Which soil horizon usually contains humus? (6.E.2.3)
    A B horizon
    B A horizon
    C C horizon
    D E horizon

19. Which of the following might mix a soil creating good-quality soil? (6.E.2.4)
    A a gentle rain
    B organic matter
    C compaction
    D worms

20. Which of the following is not a method used to preserve the fertility of topsoil? (6.E.2.4)
    A crop rotation
    B clearing a field of all plants occasionally so that the nutrients are not being used up and can replenish
    C plowing under plant materials left in the field
    D plant soybeans in field to increase nitrogen levels