

Directions: For each of the following questions, decide which of the choices is best and fill in the corresponding space on the answer document.

9ERT120

1. A rift valley is found at a plate boundary where
- A. two oceanic plates are separating.
 - B. an oceanic plate is subducting under a continental plate.
 - C. a continental plate is moving towards another continental plate.
 - D. two continental plates are separating.

9ERT049

2. The San Andreas fault in California is an example of what type of plate boundary?
- A. convergent
 - B. divergent
 - C. transform
 - D. mid-ocean ridge

9ERT047

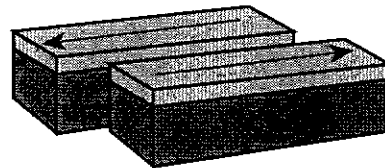
3. Which geologic structure forms at the boundary of two plates that are spreading apart?
- A. deep ocean trench
 - B. volcanic island arc
 - C. mid-ocean ridge
 - D. uplifted mountains

9ERT118

4. Which geologic structure is found where an oceanic plate and a continental plate are converging?
- A. rift valley
 - B. deep ocean trench
 - C. volcanic island arc
 - D. mid-ocean ridge

9ERT143

5.



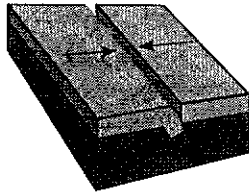
A geologist observes plate movement like the one shown above. Predict the type of plate boundary where this would occur.

- A. convergent
- B. subduction
- C. transform
- D. divergent

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9ERT170

6.



Which of these is formed at a convergent plate boundary where two crustal plates collide?

- A. the Andes mountains of South America
- B. the volcanoes of the Hawaiian Islands chain
- C. the San Andreas fault in California
- D. the Mid-Atlantic Ridge in the Atlantic Ocean

9ERT10

7. Which of these types of plate boundaries would most likely form a volcanic island arc?

- A. ocean to ocean convergent
- B. ocean to continental convergent
- C. ocean to ocean divergent
- D. ocean to continental divergent

9ERT141

8. Which of these is found at a convergent plate boundary?

- A. rift valleys
- B. mid-ocean ridges
- C. volcanic island arcs
- D. thinning crust

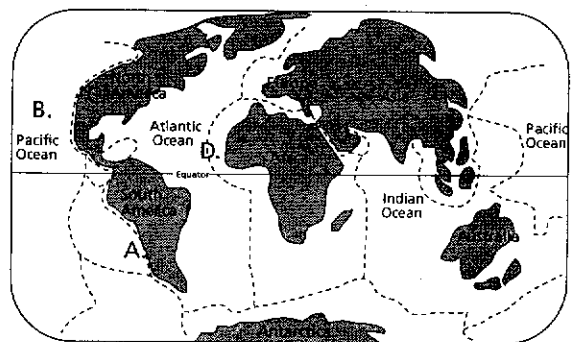
9ERT048

9. Seafloor spreading is associated with what type of plate boundary?

- A. convergent
- B. divergent
- C. subduction
- D. transform

9ERT169

10.



Using the picture above, which of these is formed at a transform plate boundary where two crustal plates slide past one another?

- A. the Andes mountains of South America
- B. the volcanoes of the Hawaiian Islands chain
- C. the San Andreas fault in California
- D. the Mid-Atlantic Ridge in the Atlantic Ocean

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9ERT145

11. The Modified Mercalli scale is based on the amount of damage and how strong the earthquake felt. What characteristic of an earthquake does this scale measure?

- A. magnitude
- B. moment magnitude
- C. intensity
- D. wavelength

9ERT135

12. Which of these occurs when the amount of stress applied to rock is greater than the strain unit of that rock?

- A. volcanic eruptions
- B. earthquakes
- C. landslides
- D. tsunamis

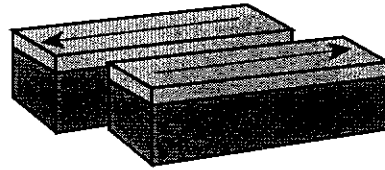
9ERT195

13. According to the Richter scale, how much larger is a magnitude 6 earthquake than a magnitude 4 earthquake?

- A. 1 time
- B. 10 times
- C. 100 times
- D. 1000 times

9ERT196

14.



What geological phenomenon is most likely to occur at the plate boundary shown above?

- A. volcanic eruption
- B. earthquake
- C. sea floor spreading
- D. trench

9ERT155

15. Earthquake magnitude, measured on the Richter Scale, measures

- A. the amount of energy released by the earthquake.
- B. the amount of damage caused by the earthquake.
- C. how long shaking occurred during the earthquake.
- D. the size of the area that felt the earthquake.

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9ERT140

16. Which event occurs at convergent, divergent, and transform plate boundaries?

- A. volcanic eruption
- B. earthquake
- C. avalanche
- D. tsunami

9ERT156

17. How much *more energy* is released by a magnitude 5.0 earthquake compared to a magnitude 4.0 earthquake?

- A. 2 times
- B. 10 times
- C. 32 times
- D. 100 times

9ERT061

18. Mount St. Helens has steep sides and was formed by

- A. slippage along a transform fault.
- B. large volumes of flowing lava.
- C. a violent eruption.
- D. a slow upwelling of magma.

9ERT150

19. What type of volcanic event is associated with shield volcanoes?

- A. quiet smooth eruptions
- B. flows of hot gas and ash
- C. flows of volcanic mud
- D. explosive eruptions

9ERT176

20. The world's most active and violent volcanoes are found in the Pacific Ring of Fire. The volcanoes are probably mountains with

- A. steep slopes.
- B. gentle slopes.
- C. broad bases.
- D. layers of lava.

9ERT058

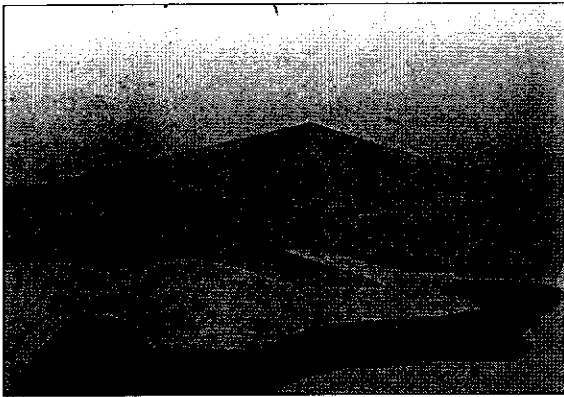
21. Magma with a high silica content results in a volcano formed by

- A. slippage along a transform fault.
- B. large volumes of flowing lava.
- C. a violent eruption.
- D. a slow upwelling of magma.

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9ERT159

22.



The Mauna Loa volcano is shown above. Based on the shape of its slopes, this volcano

- A. had violent eruptions in the past.
- B. had many landslides in the past.
- C. released ash and steam when it erupted.
- D. released large amounts of lava in the past.

9ERT012

23. Most of the heat released by Earth is

- A. reflected back into space.
- B. used by plants for photosynthesis.
- C. reflected by the moon.
- D. absorbed by the atmosphere.

9ERT181

24. An increase in which gas would produce the greatest greenhouse warming effect on Earth's atmosphere?

- A. hydrogen
- B. nitrogen
- C. oxygen
- D. carbon dioxide

9ERT070

25. Which list of gases is responsible for the greenhouse effect?

- A. ozone (O_3), oxygen (O_2), and water vapor (H_2O)
- B. nitrogen (N_2), carbon dioxide (CO_2), oxygen (O_2), and water vapor (H_2O)
- C. octane (C_8H_{18}), ethylene (C_2H_4), and methane (CH_4)
- D. carbon dioxide (CO_2), methane (CH_4), chlorofluorocarbons (CFC), and nitrous oxide (NO)

9ERT111

26. The scenic coastline of California continues to be shaped by

- A. wave erosion.
- B. uplifting.
- C. slip faults.
- D. sedimentation.

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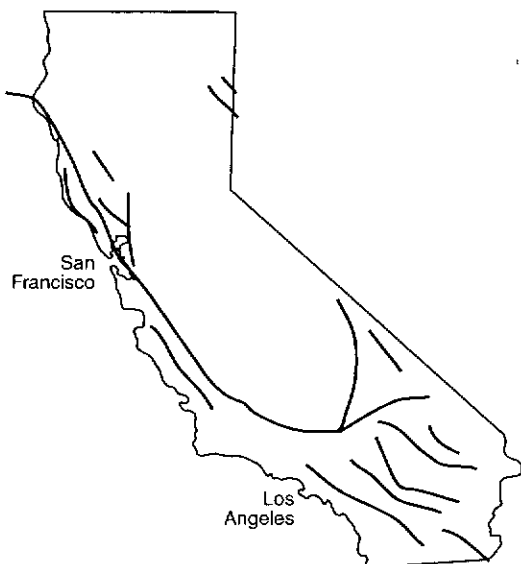
9ERT205

27. An opening in the Earth's crust where lava flows is a

- A. caldera.
- B. volcano.
- C. cinder cone.
- D. magma flow.

9ERT210

28.



The map above shows the major faults in California. What is likely to happen in these areas?

- A. volcanic eruptions
- B. landslides
- C. earthquakes
- D. erosion

9ERT207

29. The sudden movement of a mass of bedrock or loose rock down a hill or mountain is a(n)

- A. landslide.
- B. earthquake.
- C. eruption.
- D. tsunami.

9ERT203

30. Seismic sea waves or tsunamis are caused by

- A. wave erosion.
- B. rip currents.
- C. earthquakes.
- D. hurricanes.

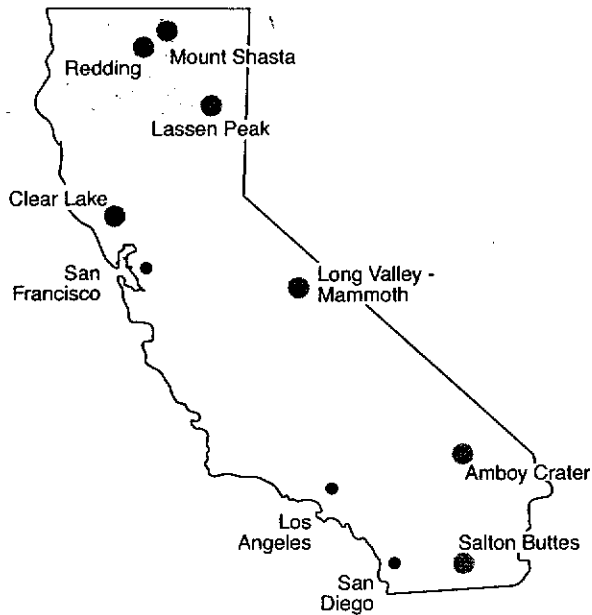
9ERT204

31. Houses built along the shores of the Pacific Ocean can be destroyed by

- A. sand bars.
- B. wave erosion.
- C. rip currents.
- D. barrier reefs.

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32.



The gray dots on the map of California shows areas where there is danger of

- A. earthquakes.
- B. landslides.
- C. mountains uplifting.
- D. volcanoes erupting.

33. Underwater earthquakes can cause a dangerous event in the ocean called a(n)

- A. aftershock.
- B. high tide.
- C. tsunami.
- D. storm surge.