

Directed Reading

Section: Earthquakes and Society

1. What causes most injuries during an earthquake?

2. Name four other dangers that result from earthquakes.

TSUNAMIS

_____ 3. A giant ocean wave that forms after a volcanic eruption, submarine earthquake, or landslide is called a

- a. tsunami.
- b. hurricane.
- c. tornado.
- d. riptide.

_____ 4. A tsunami may begin to form as a result of a sudden drop or rise in the ocean floor associated with

- a. seismic gaps.
- b. riptides.
- c. undersea earthquakes.
- d. mudslides.

_____ 5. Which of the following drops and rises with the ocean floor as it moves?

- a. a tall building
- b. the earthquake's focus
- c. a large mass of sea water
- d. floodwater

Directed Reading *continued*

- _____ 6. What occurs when water moves up and down as it adjusts to a change in sea level?
- a. a series of long, low waves that increase in height as they near the shore
 - b. a series of short, high waves that increase in height as they near the shore
 - c. a series of long, low waves that decrease in height as they near the shore
 - d. a series of short, low waves that decrease in height as they near the shore

DESTRUCTION TO BUILDINGS AND PROPERTY

- _____ 7. Most buildings are not designed to withstand the
- a. swaying motion caused by earthquakes.
 - b. vibrations caused by earthquakes.
 - c. swaying motion caused by tsunamis.
 - d. vibrations caused by tsunamis.
- _____ 8. During an earthquake, buildings with weak walls
- a. will not sway.
 - b. may collapse completely.
 - c. will probably remain standing.
 - d. will suffer no damage.
- _____ 9. What can affect the way in which a building responds to seismic waves?
- a. the type of heating and cooling system in the building
 - b. the type of ground beneath the building
 - c. the type of windows in the building
 - d. the type of plumbing in the building
10. A building is more likely to be damaged during an earthquake if it has been built upon which type of ground?
- _____
- _____

EARTHQUAKE SAFETY

- _____ 11. Where could a destructive earthquake take place?
- a. only in regions where tornadoes occur
 - b. in any region of the United States
 - c. only along the coastlines of large continents
 - d. only in regions where tsunamis occur

Directed Reading *continued*

- _____ 12. In what geographic area in the United States are destructive earthquakes more likely to occur?
- a. the Midwest
 - b. the East Coast
 - c. the South
 - d. California or Alaska
- _____ 13. Earthquake safety rules may help
- a. disaster control centers respond faster.
 - b. scientists predict earthquakes.
 - c. prevent death, injury, and property damage.
 - d. shorten an earthquake's duration.
- _____ 14. Before an earthquake occurs, people should
- a. stay away from buildings.
 - b. be prepared.
 - c. run away as fast as they can.
 - d. board up their houses.
- _____ 15. Which of the following supplies are NOT necessary when preparing for an earthquake?
- a. canned food and bottled water
 - b. flashlights and batteries
 - c. portable radios
 - d. piles of firewood
- _____ 16. Which of the following should you NOT do if an earthquake strikes?
- a. stay calm
 - b. be reckless
 - c. protect yourself from falling debris
 - d. move to a safer position between tremors

17. What should you stay away from if you are indoors during an earthquake?

18. What should you do if you are in a car during an earthquake?

Directed Reading *continued*

19. What should you check for after an earthquake?

20. What should you always avoid after an earthquake?

EARTHQUAKE WARNINGS AND FORECASTS

- _____ 21. Being able to predict earthquakes accurately could
- a. negatively affect people's lives.
 - b. make it impossible for people to prepare.
 - c. increase the number of injuries and deaths.
 - d. help prevent injuries and deaths.
- _____ 22. Why do scientists study past earthquakes?
- a. to prevent future earthquakes
 - b. to better understand why tsunamis occur
 - c. to predict where future earthquakes are most likely to occur
 - d. to change the history of earthquakes
- _____ 23. The best earthquake forecasts
- a. are totally accurate to the day.
 - b. may be off by several years.
 - c. will only be off by a day or two.
 - d. are of no real use to scientists.
- _____ 24. By detecting changes in Earth's crust, scientists may be able to
- a. make earthquake forecasts more accurate.
 - b. make earthquake forecasts less accurate.
 - c. prevent future earthquakes.
 - d. prevent future tsunamis.
- _____ 25. Faults near many population centers have been
- a. located and mapped.
 - b. located and destroyed.
 - c. relocated and mapped.
 - d. relocated and destroyed.
- _____ 26. What can be measured by instruments placed along faults?
- a. large changes in rock movement around the faults
 - b. small changes in epicenter movement around the faults
 - c. small changes in rock movement around the faults
 - d. large changes in crust movement around the faults

Directed Reading *continued*

27. Using instruments placed along faults to predict earthquakes
- a. is both reliable and accurate.
 - b. is a useless exercise.
 - c. is not a method currently used.
 - d. can detect an increase in stress.

28. Define *seismic gap*.

29. What do some scientists think will occur at seismic gaps?

30. What is an example of a fault zone that has several seismic gaps along which scientists believe that future earthquakes may occur?

31. Some earthquakes are preceded by _____.

32. What is a foreshock?

33. How long before an earthquake might foreshocks occur?

34. Where and when did the only earthquake that has ever been predicted by foreshocks occur?

Directed Reading *continued*

35. For what purpose do scientists who study earthquakes use a variety of sensors?

36. What may happen when the cracks in rocks, caused by stress in fault zones, are filled with water?

37. Why do scientists monitor the seepage of natural gas in fault zones?

38. What do scientists hope to do with information gathered at fault zones?

39. Earthquake prediction is mostly unreliable because not all earthquakes have _____ or other precursors.

40. How does the earthquake-hazard level in the central part of the contiguous United States compare to the earthquake-hazard level of the West Coast of the United States?
