

Understanding Earthquakes and Their Measurement

Science · Answer Key · 23 Questions

1. What is the best-known scale used to describe the magnitude of an earthquake?

- A) Mercalli scale
- B) Richter scale**
- C) Moment Magnitude scale
- D) Saffir-Simpson scale

2. The Richter scale gives a measure of the energy released at the earthquake's _____.

- A) epicentre
- B) surface
- C) focus**
- D) fault line

3. Who devised the Richter scale?

- A) Charles Darwin
- B) Albert Einstein
- C) Charles E. Richter**
- D) Galileo Galilei

4. What is the typical range of the Richter scale?

- A) 1 to 5
- B) 0 to 10**
- C) 1 to 10
- D) 0 to 12

5. An instrument that detects and records the intensity of seismic waves generated by an earthquake is called a(n) _____.

- A) barometer
- B) seismograph**
- C) altimeter
- D) thermometer

6. A place of origin of an earthquake inside the earth is called the _____.

- A) epicentre
- B) fault
- C) seismic focus**
- D) crust

7. The depth of the seismic focus below the earth's surface is called the _____.

A) epicentral distance

B) focal depth

C) seismic radius

D) crustal thickness

8. The point on the surface of the earth directly above the focus of an earthquake is called the _____.

A) seismic focus

B) fault scarp

C) epicentre

D) core

9. Waves generated inside the earth's surface due to an earthquake are called _____.

A) sound waves

B) light waves

C) seismic waves

D) radio waves

10. The graphical record of the intensity of seismic waves is called a _____.

A) seismograph

B) seismogram

C) sonogram

D) echogram

11. The Richter scale is logarithmic, meaning a change of one unit corresponds to a _____ times change in energy.

A) 2

B) 5

C) 10

D) 100

12. An earthquake with a magnitude of 7 or more on the Richter scale is considered _____.

A) mild

B) moderate

C) strong

D) destructive

13. A seismograph works based on the principle of a _____.

- A) lever
- B) pulley
- C) vibrating pendulum**
- D) spring

14. When an earthquake occurs, the freely suspended bob of the pendulum in a seismograph _____.

- A) shakes violently
- B) does not shake and remains in place**
- C) swings wildly
- D) falls off

15. Which of the following is NOT a typical damaging effect of earthquakes mentioned in the text?

- A) Damage to buildings and roads
- B) Landslides
- C) Floods caused by river course changes
- D) Volcanic eruptions**

16. Underground nuclear explosions can cause _____.

- A) heavy rainfall
- B) powerful vibrations and earthquakes**
- C) magnetic storms
- D) acid rain

17. An earthquake under the ocean floor can generate powerful sea waves called _____.

- A) hurricanes
- B) typhoons
- C) tsunamis**
- D) monsoons

18. Tsunamis can travel at speeds of about _____ km/h in deep water.

- A) 70-80
- B) 100-200
- C) 700-800**
- D) 1000-1200

19. What can happen to sewer systems during an earthquake?

- A) They get cleaner
- B) They may burst open, releasing sewage**
- C) They become more efficient
- D) They are unaffected

20. Earthquakes can cause _____ in hilly areas and mountains.

- A) droughts
- B) landslides**
- C) floods
- D) blizzards

21. Communication systems can be disrupted by earthquakes due to _____.

- A) power surges
- B) uprooted electric poles and collapsed towers**
- C) internet outages
- D) radio interference

22. A shallow earthquake has a focal depth of _____.

- A) more than 700 km
- B) 70-300 km
- C) 60-70 km**
- D) less than 10 km

23. Intermediate earthquakes have a focal depth between _____ km.

- A) 0-60
- B) 60-70
- C) 70-300**
- D) 300-700