

Advanced Natural Disasters Knowledge

Natural Disasters · Answer Key · 25 Questions

1. Which specific tectonic process is responsible for the formation of the 'Ring of Fire' in the Pacific Ocean?

- A) Subduction**
- B) Seafloor spreading
- C) Transform faulting
- D) Continental rifting

2. The Enhanced Fujita (EF) scale is used to categorize tornadoes based on what primary factor?

- A) Maximum wind speed
- B) Barometric pressure drop
- C) Estimated damage to structures**
- D) Duration of the vortex

3. What is the primary scientific term for the specific location within the Earth where a rupture begins during an earthquake?

- A) Epicenter
- B) Hypocenter**
- C) Fault scarp
- D) Seismic shadow zone

4. In tropical cyclone terminology, what is the 'central dense overcast'?

- A) The calm eye of the storm
- B) The high-altitude cloud shield covering the eye**
- C) The outer spiral rainbands
- D) The region of maximum sustained winds

5. Which volcanic index measures the explosivity of an eruption based on volume of ejecta and height of eruption column?

- A) Mercalli Intensity Scale
- B) Volcanic Explosivity Index (VEI)**
- C) Richter Scale
- D) Saffir-Simpson Scale

6. What causes a 'seiche' in a lake or semi-enclosed body of water?

- A) Tidal pull from the moon
- B) Standing waves caused by seismic activity or wind**
- C) Sudden underwater volcanic eruption
- D) Excessive surface tension

7. What is the 'storm surge' in a hurricane primarily caused by?

- A) Extreme rainfall
- B) Low atmospheric pressure and wind stress**
- C) Rapid sea-level rise due to tectonic shift
- D) Thermal expansion of ocean water

8. Which gas, commonly released in volcanic eruptions, is heavier than air and can cause asphyxiation in low-lying areas?

- A) Carbon dioxide**
- B) Sulfur dioxide
- C) Hydrogen sulfide
- D) Methane

9. What defines a 'supercell' thunderstorm distinct from other storm types?

- A) The presence of lightning
- B) A rotating updraft known as a mesocyclone**
- C) Formation in equatorial regions only
- D) Occurring exclusively at night

10. The 1908 Tunguska event in Siberia is widely classified by scientists as what type of natural disaster?

- A) Volcanic eruption
- B) Meteor airburst**
- C) Massive landslide
- D) Tectonic subsidence

11. What determines the classification of a 'blizzard' versus a 'heavy snowstorm'?

- A) Total accumulation of snow
- B) Wind speed and visibility duration**
- C) Temperature below freezing
- D) Barometric pressure drop

12. What is 'liquefaction' during an earthquake?

- A) The melting of permafrost
- B) Saturated soil losing strength and behaving like a liquid**
- C) The rapid evaporation of groundwater
- D) The conversion of solid rock to magma

13. Which ocean basin is most frequently affected by tropical cyclones referred to as 'typhoons'?

A) North Atlantic

B) Northwest Pacific

C) South Indian

D) South Atlantic

14. What is the primary cause of a 'lahar' associated with volcanoes?

A) Lava flow

B) Pyroclastic density currents

C) Rapid melting of snow and ice

D) Tephra fall

15. What does the 'Saffir-Simpson Scale' specifically measure?

A) Tornado intensity

B) Hurricane wind speed

C) Earthquake magnitude

D) Tsunami height

16. The 'P-wave' in seismology stands for what?

A) Pressure wave

B) Primary wave

C) Periodic wave

D) Particle wave

17. Which of these phenomena is specifically triggered by underwater landslides or earthquakes?

A) Cyclogenesis

B) Tsunami

C) Monsoon

D) Drought

18. What defines 'pyroclastic flow' during a volcanic eruption?

A) Flowing liquid lava

B) High-density mix of hot gas and volcanic matter

C) Ash falling slowly from the sky

D) Mudflow caused by rain

19. Which weather pattern is defined by an unusually cool sea surface temperature in the central and eastern Pacific?

- A) El Niño
- B) La Niña**
- C) Southern Oscillation
- D) Polar Vortex

20. What is the term for a windstorm that causes widespread, long-lived straight-line wind damage?

- A) Derecho**
- B) Squall line
- C) Habub
- D) Chinook

21. Which layer of the atmosphere does the vast majority of weather activity occur in?

- A) Stratosphere
- B) Mesosphere
- C) Troposphere**
- D) Thermosphere

22. What is the primary driver of the seasonal movement of the Intertropical Convergence Zone (ITCZ)?

- A) Solar heating of the Earth**
- B) Ocean currents
- C) Volcanic ash plumes
- D) Earth's rotation speed

23. A 'Gale' on the Beaufort Scale corresponds to what wind condition?

- A) Very light breeze
- B) Storm force winds
- C) Strong winds capable of breaking twigs**
- D) Hurricane force winds

24. Which scale is used specifically to categorize the intensity of damage from an earthquake, distinct from magnitude?

- A) Richter Scale
- B) Moment Magnitude Scale
- C) Modified Mercalli Intensity Scale**
- D) Fujita Scale

25. What is the main cause of drought related to the 'feedback loop' of dry soil?

A) Increased albedo

B) Decreased evapotranspiration

C) Higher groundwater levels

D) Increased atmospheric humidity