

Natural Disasters: A High School Curriculum Review

Earth Science · Answer Key · 20 Questions

1. Which geological process is the primary cause of most earthquakes?

- A) Volcanic eruptions
- B) Landslides
- C) Tectonic plate movement**
- D) Tidal surges

2. The Richter scale, often associated with earthquakes, primarily measures which aspect of seismic activity?

- A) The duration of shaking
- B) The depth of the earthquake's focus
- C) The energy released by the earthquake**
- D) The number of aftershocks

3. What is the main characteristic of a stratovolcano (or composite volcano)?

- A) Broad, gently sloping sides formed by fluid lava flows
- B) Steep, conical shape with alternating layers of lava and ash**
- C) Caldera formation due to explosive eruptions
- D) Formation of lava domes

4. A hurricane is a tropical cyclone that forms over warm ocean waters. What is the minimum sustained wind speed required for a tropical storm to be classified as a hurricane?

- A) 119 km/h (74 mph)**
- B) 90 km/h (56 mph)
- C) 150 km/h (93 mph)
- D) 63 km/h (39 mph)

5. The 'Ring of Fire' is a horseshoe-shaped zone known for its high frequency of volcanic eruptions and earthquakes. Which of the following oceans is it primarily located around?

- A) Atlantic Ocean
- B) Indian Ocean
- C) Arctic Ocean
- D) Pacific Ocean**

6. What is the primary driver of tsunamis, often mistakenly called 'tidal waves'?

- A) Strong winds over the ocean surface
- B) Underwater volcanic eruptions
- C) Meteorite impacts in the ocean
- D) Large earthquakes on the ocean floor**

7. Which of the following is a characteristic feature of a tornado's formation?

- A) Formation within large, stable air masses
- B) Association with warm fronts and humid air**
- C) Occurs primarily over large bodies of water
- D) Requires descending air currents

8. What is the main danger associated with a drought?

- A) Sudden widespread flooding
- B) Destruction of infrastructure by high winds
- C) Severe shortages of water and food**
- D) Rapid spread of volcanic ash

9. Mass wasting, such as landslides, is often triggered by which factor?

- A) Consistent dry weather
- B) Sustained periods of heavy rainfall or snowmelt**
- C) Low atmospheric pressure
- D) Strong prevailing winds

10. A 'supercell' thunderstorm is known for its potential to produce severe weather, including tornadoes. What is a defining characteristic of a supercell?

- A) It is a short-lived thunderstorm
- B) It contains a persistent rotating updraft called a mesocyclone**
- C) It forms in clear, dry air
- D) It is typically small in diameter

11. Which type of natural disaster is characterized by the sudden release of energy in the Earth's crust, creating seismic waves?

- A) Volcanic eruption
- B) Landslide
- C) Earthquake**
- D) Flood

12. When a cold air mass displaces a warm air mass, it can lead to the formation of cumulonimbus clouds and severe thunderstorms. This is associated with which type of front?

- A) Warm front
- B) Stationary front
- C) Occluded front

D) Cold front

13. What is the primary cause of a mudflow (or lahar) that can occur on the slopes of a volcano?

- A) Erosion from wind
- B) Accumulation of dry volcanic ash

C) Melting snow and ice mixed with volcanic debris

- D) Subterranean gas release

14. The 'Eye' of a hurricane is characterized by:

- A) The strongest winds and heaviest rainfall

B) Calm conditions and clear skies

- C) Rapidly rotating thunderstorms
- D) The most intense storm surge

15. Which of the following is NOT a primary factor contributing to the intensity of a wildfire?

- A) Fuel type (e.g., dry vegetation)
- B) Wind speed and direction
- C) Topography (slope)

D) Low humidity

16. A 'mega-tsunami' is an exceptionally large tsunami. What is a known cause of some mega-tsunamis?

- A) Small, localized earthquakes

B) Volcanic flank collapse into the sea

- C) Passing ships
- D) High tides during a full moon

17. What is the term for a period of unusually low temperatures that can significantly impact agriculture and ecosystems?

- A) Heatwave
- B) Blizzard

C) Cold snap

- D) Hailstorm

18. The formation of sinkholes is most commonly associated with which geological phenomenon?

A) Volcanic activity

B) Karst topography (dissolution of soluble rocks like limestone)

C) Glacial erosion

D) Subterranean nuclear testing

19. What is the main scientific concern regarding the increasing frequency and intensity of extreme weather events?

A) A decrease in global sea levels

B) A reduction in atmospheric carbon dioxide

C) Anthropogenic climate change

D) Increased ozone layer thickness

20. Which of the following is a characteristic of a blizzard?

A) High temperatures and heavy rain

B) Strong winds, blowing snow, and low visibility

C) Ground tremors and ash fall

D) Torrential rainfall and flash floods