

Earth Science Historical Milestones

Earth Science · Answer Key · 20 Questions

1. In 1912, Alfred Wegener proposed the theory of continental drift. What was the name of the hypothetical supercontinent he identified that existed during the late Paleozoic and early Mesozoic eras?

- A) Gondwana
- B) Pangaea**
- C) Laurasia
- D) Rodinia

2. The Great Oxidation Event occurred approximately 2.4 billion years ago. Which organisms were primarily responsible for the significant increase in atmospheric oxygen?

- A) Cyanobacteria**
- B) Eukaryotic algae
- C) Methanogens
- D) Archaea

3. What is the name of the 19th-century geologist who authored 'Principles of Geology', which popularized the concept of uniformitarianism?

- A) Louis Agassiz
- B) James Hutton
- C) Charles Lyell**
- D) William Smith

4. During the 1960s, which research vessel conducted deep-sea drilling that provided critical evidence for seafloor spreading and plate tectonics?

- A) RV Atlantis
- B) Glomar Challenger**
- C) HMS Challenger
- D) JOIDES Resolution

5. Which scientist is credited with the 1956 calculation of the Earth's age as approximately 4.55 billion years using lead-lead dating of meteorites?

- A) Clair Patterson**
- B) Arthur Holmes
- C) Marie Curie
- D) Ernest Rutherford

6. The 'Year Without a Summer' occurred in 1816 following the massive eruption of which volcano?

- A) Krakatoa
- B) Mount Tambora**
- C) Mount Pinatubo
- D) Mount Pelée

7. In 1935, Charles Richter developed the earthquake magnitude scale. In what specific region of the world were the seismic data for this scale originally collected?

- A) Japan
- B) California**
- C) Chile
- D) Alaska

8. What is the name of the boundary layer separating the Earth's crust from the mantle, first identified by a Croatian seismologist in 1909?

- A) Gutenberg discontinuity
- B) Lehmann discontinuity
- C) Mohorovicic discontinuity**
- D) Conrad discontinuity

9. The Deccan Traps in present-day India are a massive Large Igneous Province formed by volcanic activity during which geological period?

- A) Cretaceous**
- B) Jurassic
- C) Triassic
- D) Permian

10. Which explorer and scientist published the first comprehensive map of the ocean floor in 1957, providing visual evidence of the Mid-Atlantic Ridge?

- A) Sylvia Earle
- B) Marie Tharp**
- C) Jacques Cousteau
- D) Robert Ballard

11. In the 1840s, which scientist proposed the theory of a global Ice Age after observing glacial erratic boulders and striations in Europe?

- A) Louis Agassiz**
- B) Charles Darwin
- C) John Tyndall
- D) Thomas Chamberlin

12. The 'Great Unconformity' describes a gap in the geological record where younger strata overlie much older crystalline rocks. Which geological feature is famously associated with this feature in the United States?

A) Grand Canyon

B) Death Valley

C) Yellowstone

D) Appalachian Mountains

13. What specific gas was identified by Mario Molina and F. Sherwood Rowland in 1974 as the primary cause of ozone layer depletion?

A) Carbon Dioxide

B) Chlorofluorocarbons

C) Methane

D) Nitrous Oxide

14. Which 19th-century American geologist coined the term 'lithosphere' and 'asthenosphere' in his 1914 publication?

A) Joseph Barrell

B) Dana James

C) Grove Karl Gilbert

D) Harry Hess

15. The Emeishan Traps represent a large igneous province formed during the end of which geological period, associated with a mass extinction?

A) Permian

B) Devonian

C) Silurian

D) Ordovician

16. In 1863, which Irish physicist estimated the age of the Earth to be between 20 and 400 million years based on cooling rates, famously clashing with evolutionary theorists?

A) Lord Kelvin

B) John Joly

C) James Clerk Maxwell

D) William Thomson

17. What was the name of the 1883 volcanic event that was the first global media event, with news spread rapidly via the newly established telegraph network?

A) Santorini

B) Krakatoa

C) Mount St. Helens

D) Mount Etna

18. Which scientist discovered the inner core of the Earth in 1936 by analyzing seismic wave reflections?

A) Inge Lehmann

B) Beno Gutenberg

C) Harold Jeffreys

D) Hugo Benioff

19. The Burgess Shale, discovered by Charles Walcott in 1909, is famous for preserving soft-bodied organisms from which geological period?

A) Cambrian

B) Carboniferous

C) Triassic

D) Eocene

20. In 1948, the Sverdrup, Johnson, and Fleming text 'The Oceans' was published. What did it establish as the foundational discipline of modern oceanography?

A) Physical Oceanography

B) Marine Biology

C) Chemical Oceanography

D) Marine Geology