

Advanced Earth Science Data

Earth Science · Answer Key · 15 Questions

1. On what specific date did the 9.5-magnitude Valdivia earthquake, the strongest ever recorded, occur in Chile?

- A) May 22, 1960**
- B) March 27, 1964
- C) December 26, 2004
- D) August 15, 1950

2. What is the approximate depth of the Challenger Deep in the Mariana Trench as measured by the 2010 multibeam sonar survey?

- A) 9,840 meters
- B) 10,994 meters**
- C) 11,230 meters
- D) 10,540 meters

3. Which scientist published the seminal paper 'The Origin of Continents and Oceans' in 1915, proposing the theory of continental drift?

- A) Harry Hess
- B) Arthur Holmes
- C) Alfred Wegener**
- D) Beno Gutenberg

4. In 1958, Charles David Keeling began continuous measurements of atmospheric carbon dioxide at which specific location?

- A) Mauna Loa Observatory**
- B) South Pole Station
- C) Summit Camp, Greenland
- D) Cape Grim, Tasmania

5. The Mohorovicic discontinuity, or 'Moho', typically resides at an average depth of how many kilometers beneath the ocean floor?

- A) 5-10 km**
- B) 15-20 km
- C) 30-35 km
- D) 50-60 km

6. The eruption of Mount Tambora in 1815, which led to the 'Year Without a Summer', registered what value on the Volcanic Explosivity Index (VEI)?

- A) VEI 5
- B) VEI 6
- C) VEI 7**
- D) VEI 8

7. Approximately what percentage of the Earth's total volume is accounted for by the Earth's mantle?

- A) 68%
- B) 75%
- C) 84%**
- D) 92%

8. In 1935, Charles Richter developed the Richter magnitude scale, originally calibrated using what specific type of seismometer?

- A) Wood-Anderson**
- B) Lehmann
- C) Press-Ewing
- D) Streckeisen

9. What is the exact atmospheric pressure at sea level in standard pascals (Pa)?

- A) 101,325 Pa**
- B) 98,066 Pa
- C) 100,000 Pa
- D) 103,300 Pa

10. The 1989 Montreal Protocol was signed to regulate the production of substances responsible for ozone depletion. In what year was the protocol opened for signature?

- A) 1985
- B) 1987**
- C) 1989
- D) 1991

11. How many primary tectonic plates are generally recognized in the modern plate tectonic model?

- A) 5
- B) 7**
- C) 9
- D) 12

12. The Carrington Event, the most intense geomagnetic storm on record, peaked in intensity on what date?

- A) September 1, 1859**
- B) October 12, 1862
- C) August 28, 1855
- D) November 5, 1860

13. What is the approximate speed of sound in the Earth's inner core in kilometers per second?

- A) 5.2 km/s
- B) 8.5 km/s
- C) 11.2 km/s**
- D) 14.5 km/s

14. Which mineral has a hardness of exactly 7 on the Mohs scale of mineral hardness?

- A) Orthoclase
- B) Quartz**
- C) Topaz
- D) Corundum

15. The 'Great Oxidation Event', which fundamentally changed the Earth's atmosphere, began approximately how many billion years ago?

- A) 1.2 billion
- B) 2.4 billion**
- C) 3.5 billion
- D) 4.0 billion