

# Advanced Earth Science & Bio-Geology

Earth Science · Answer Key · 10 Questions

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**1. Which geological eon, occurring before the Phanerozoic, saw the first appearance of the Ediacaran biota?**

- A) Archean
- B) Proterozoic**
- C) Hadean
- D) Paleozoic

**2. The 'Great Oxygenation Event', which occurred approximately 2.4 billion years ago, was primarily triggered by which group of organisms?**

- A) Green algae
- B) Cyanobacteria**
- C) Lichens
- D) Radiolarians

**3. Which specific form of calcium carbonate is most commonly used by scleractinian corals to build their skeletal structures?**

- A) Calcite
- B) Dolomite
- C) Aragonite**
- D) Siderite

**4. In the context of the nitrogen cycle, what is the name of the process where bacteria convert nitrates back into nitrogen gas?**

- A) Denitrification**
- B) Nitrification
- C) Ammonification
- D) Nitrogen fixation

**5. What is the primary mechanism by which giant tube worms (*Riftia pachytila*) obtain energy in the absence of sunlight at hydrothermal vents?**

- A) Chemosynthesis**
- B) Radiotrophy
- C) Osmotrophy
- D) Phagocytosis

**6. During the Carboniferous period, what environmental factor is believed to have allowed insects like Meganeura to reach wingspans of 70 cm?**

- A) Lower gravity
- B) Increased humidity
- C) Higher atmospheric oxygen**
- D) Reduced predation

**7. Which survival state allows Tardigrades to withstand extreme temperatures, radiation, and the vacuum of space by dehydrating their bodies?**

- A) Cryptobiosis**
- B) Aestivation
- C) Diapause
- D) Hibernation

**8. What is the specific term for the dark, wind-blown dust consisting of soot and rock particles that reduces the albedo of glaciers?**

- A) Regolith
- B) Cryoconite**
- C) Loess
- D) Tephra

**9. The 'Catatumbo lightning' is a unique atmospheric phenomenon occurring at the mouth of the Catatumbo River in which country?**

- A) Venezuela**
- B) Brazil
- C) Indonesia
- D) Democratic Republic of the Congo

**10. Which bird species holds the record for the longest recorded non-stop migratory flight, covering over 12,000 km from Alaska to New Zealand?**

- A) Arctic Tern
- B) Bar-tailed Godwit**
- C) Wandering Albatross
- D) Sooty Shearwater