

Advanced Geological Wonders

Geology · Answer Key · 12 Questions

1. Which geological feature is formed by the subduction of the Nazca Plate beneath the South American Plate?

- A) The East African Rift
- B) The Andes Mountains**
- C) The Himalayas
- D) The Appalachian Mountains

2. The Bushveld Igneous Complex, containing the world's largest reserves of platinum-group metals, is located in which country?

- A) South Africa**
- B) Canada
- C) Russia
- D) Australia

3. What is the name of the 'super-continent' that existed approximately 1.1 billion to 750 million years ago, preceding Pangea?

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

4. Which mineral is the primary constituent of the Earth's lower mantle, making it the most abundant mineral on the planet?

- A) Quartz
- B) Olivine
- C) Bridgmanite**
- D) Calcite

5. The Deccan Traps in India were formed primarily by what geological process?

- A) Glacial scouring
- B) Large igneous province volcanic activity**
- C) Continental collision
- D) Submarine sedimentation

6. Which tectonic plate is currently responsible for the rapid mountain building of the Southern Alps in New Zealand?

A) Pacific Plate and Indo-Australian Plate

B) Nazca Plate and South American Plate

C) Eurasian Plate and African Plate

D) Philippine Sea Plate and Pacific Plate

7. Which sedimentary rock is primarily composed of the shells and skeletons of marine microorganisms, such as coccolithophores?

A) Shale

B) Chalk

C) Sandstone

D) Conglomerate

8. The Afar Triple Junction is a geological point where three tectonic plates are pulling apart. Which three plates meet here?

A) African, Eurasian, and Arabian

B) Nubian, Somali, and Arabian

C) Pacific, North American, and Juan de Fuca

D) Eurasian, Indian, and Australian

9. What is the term for the geological transition zone where the Earth's crust thins significantly before becoming oceanic crust?

A) Passive margin

B) Convergent boundary

C) Transform fault

D) Hotspot track

10. Which isotope system is most commonly used to date the crystallization age of Zircon minerals?

A) Carbon-14

B) Potassium-Argon

C) Uranium-Lead

D) Rubidium-Strontium

11. The Vredefort Crater in South Africa holds the distinction of being the world's largest verified impact structure. Approximately how old is it?

A) 2 billion years

B) 65 million years

C) 500 million years

D) 10 million years

12. Which layer of the Earth exhibits plastic deformation and is the primary source of magma for mid-ocean ridges?

- A) Inner core
- B) Lower mantle
- C) Asthenosphere**
- D) Lithosphere