High School Geology Foundations

Geology · Answer Key · 12 Questions

1. What type of plate boundary occurs when two tectonic plates slide horizontally past one another?

A) Transform boundary
B) Divergent boundary
C) Convergent boundary
D) Subduction zone

2. Which mineral is defined as having a hardness of 10 on the Mohs Hardness Scale?

A) Quartz
B) Corundum
C) Diamond
D) Fluorite

3. Which seismic wave travels fastest through the Earth and can move through both solids and liquids?

A) S-wave
B) P-wave
C) Love wave
D) Rayleigh wave

4. What geological process turns unconsolidated sediments into solid rock through compaction and cementation?

A) Metamorphism
B) Lithification
C) Crystallization
D) Weathering

5. Intrusive igneous rocks such as granite typically exhibit which texture due to slow cooling beneath Earth's surface?

A) Aphanitic
B) Phaneritic
C) Glassy
D) Vesicular

6. Which Earth layer is predominantly composed of liquid iron and nickel?

A) Inner core
B) Outer core
C) Lower mantle
D) Asthenosphere

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7. What type of fault forms when the hanging wall moves downward relative to the footwall under tensional stress?

A) Reverse fault
B) Thrust fault
C) Normal fault
D) Strike-slip fault

8. Foliation is a parallel alignment of mineral grains most characteristic of which rock group?

A) Intrusive igneous rocks
B) Extrusive igneous rocks
C) Metamorphic rocks
D) Chemical sedimentary rocks

9. Which relative dating principle states that in undisturbed sedimentary rock layers, the oldest layer lies at the bottom?

A) Principle of Superposition
B) Principle of Original Horizontality
C) Principle of Cross-Cutting Relationships
D) Principle of Inclusions

10. Which volcano type features broad, gently sloping sides created by low-viscosity basaltic lava flows?

A) Stratovolcano
B) Composite cone
C) Shield volcano
D) Cinder cone

11. What primary chemical process creates acidic groundwater capable of dissolving limestone to form karst caves?

A) Carbon dioxide dissolving in water to form carbonic acid
B) Oxidation of iron-rich minerals
C) Hydrolysis of feldspar into clay
D) Thermal dissolution by magma

12. Which boundary defines the seismic discontinuity between the Earth's crust and the upper mantle?

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

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