Volcano Science Essentials

Volcanology · Answer Key · 12 Questions

1. Which type of volcano is formed primarily by layers of hardened lava flows and volcanic ash, typically characterized by a steep, conical shape?

A) Shield volcano
B) Cinder cone
C) Stratovolcano
D) Lava dome

2. What is the term for molten rock that has erupted onto the Earth's surface?

A) Magma
B) Lava
C) Tephra
D) Pyroclastic flow

3. The 'Ring of Fire' is a major area in the basin of which ocean where a large number of earthquakes and volcanic eruptions occur?

A) Atlantic Ocean
B) Indian Ocean
C) Arctic Ocean
D) Pacific Ocean

4. Which volcanic feature is formed when a volcano collapses into its own magma chamber after a massive eruption?

A) Caldera
B) Fissure vent
C) Crater
D) Dike

5. What is the primary gas, by volume, typically emitted during a volcanic eruption?

A) Sulfur dioxide
B) Carbon dioxide
C) Water vapor
D) Hydrogen sulfide

6. What is the name for the solid fragments of rock and lava ejected into the air during a volcanic eruption?

A) Obsidian
B) Basalt
C) Pumice
D) Tephra

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7. Which term describes the thickness or 'stickiness' of magma, which significantly influences the explosivity of a volcano?

A) Viscosity
B) Density
C) Buoyancy
D) Solubility

8. Shield volcanoes, such as Mauna Loa, are primarily composed of what type of lava that flows easily?

A) Andesitic
B) Rhyolitic
C) Basaltic
D) Dacitic

9. What is a 'pyroclastic flow'?

A) A river of liquid lava
B) A fast-moving current of hot gas and volcanic matter
C) A buildup of volcanic ash in the atmosphere
D) A layer of deposited volcanic rock

10. Which scale is used to measure the relative explosiveness of volcanic eruptions?

A) Richter scale
B) Volcanic Explosivity Index (VEI)
C) Mercalli scale
D) Saffir-Simpson scale

11. What occurs at a subduction zone that leads to the formation of volcanoes?

A) Two plates move apart
B) One tectonic plate slides beneath another
C) Two plates slide past each other
D) Magma rises through a mantle plume

12. What are 'lahars' associated with volcanic activity?

A) Underground lava tunnels
B) Volcanic mudflows
C) Clouds of toxic gas
D) The collapse of a crater rim

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