

Name _____

Volcanic Activity Causes Answer Key

1. **E** - Subduction zones occur on Earth due to plate tectonics.
2. **P** - This describes Io, where Jupiter's gravity causes tidal heating.
3. **E** - Magma rises at divergent and convergent plate boundaries.
4. **P** - Mars' Olympus Mons formed without plate tectonics.
5. **B** - Hotspots create volcanoes on Earth (like Hawaii) and could exist on other planets.
6. **B** - Internal planetary heat drives volcanism both on Earth and elsewhere.
7. **E** - These features are specific to Earth's tectonic system.
8. **P** - Io has sulfur-based volcanism unlike Earth.

Reflection Question (Sample Answer):

Scientists study volcanoes on other planets to understand how worlds evolve and change over time. Comparing them with Earth's volcanoes helps us learn more about plate tectonics, planetary heat, and the possibility of life.