

## **Fire Mountains of the West** **STUDY GUIDE Q&A Sheet**

Explore the potential destructive power of some of the world's most dangerous volcanoes in the Cascade mountain range along the U.S. Pacific Northwest Coast. This brief study guide examines the major peaks and their potential for explosive eruptions. Fill in the blanks as you watch the video.

1. Mount St. Helen's awoke the world to the fact that some of the earth's most dangerous volcanoes lie sleeping not in a far away land, but right in America's own backyard.
2. Mounts St. Helens erupted in 1980.
3. Volcanoes have been on the surface of our earth, ever since the birth of our planet.
4. More than 500 volcanoes are now active in the world.
5. Our mineral wealth, richness of the soil, the atmosphere we breath, the water in the oceans, lakes and rivers, all are directly related to volcanic activity.
6. Without volcanic emissions of carbon dioxide, there would be no photosynthesis, no vegetable matter, no animals and no human life.
7. At the earth's heart is the inner core, a 9,000 degree solid dynamo. Surrounding the inner core is the molten rock of the outer core. Between the core and the earth's crust is the hot plastic mantle. Floating above the upper layer of the mantle is the earth's rigid crust.
8. The common origin of volcanoes is the movement of large crustal plates which crawl slowly across the face of the planet. The continents ride as passengers on these huge rafts of crustal material.
9. The real drama occurs where these moving plates collide, tear apart, or slide past each other, creating intense heat and pressure. The thinner, denser oceanic plate ponderously sinks beneath the thicker, but lighter continental plate . . . a process known as subduction.
10. Volcanoes occur in well-defined belts, such as the "Ring of Fire." Nearly 20,000 miles long, it contains 75% of the world's active volcanoes.

11. The Cascade Range stretches from Northern California to Oregon, Washington, and British Columbia. It contains some of the most explosive volcanoes in the world.
12. Crater Lake in Southern Oregon was site of the greatest eruption in North America since the end of the ice age.
13. California's Lassen Peak is one of only two of the Cascade Volcanoes that erupted during the twentieth century.
14. Glacier-crowned Mount Shasta in Northern California is composed of four overlapping cones, each built during a separate phase of activity.
15. The highest mountain in Oregon, Mount Hood has erupted with increasing frequency during the last 1,700 years.
16. A staggering 156 billion cubic feet of ice layers Mount Rainier, as much as all the Cascade volcanoes combined. Extensive glaciers, great height, frequent earthquakes, and hydrothermal venting make it potentially the most dangerous volcano in the Cascade Range.
17. Volcanic debris flows or lahars can happen with or without an eruption-triggered event.
18. Hot rock ejected onto the icefields of any of the glaciated Cascade volcanoes could trigger extensive floods and mudflows that could endanger communities great distances from the volcano.
19. Glacier Peak in the North Cascades has a long record of violently explosive eruptions that have affected areas great distances from the volcano.
20. In 1975, a sudden increase in heat and steam emission at Mount Baker sparked fears that an eruption might be imminent.
21. Mount St. Helens, the youngest and most temperamental of the western volcanoes, may erupt intermittently for decades or even centuries to come. In the past, it has erupted with many more times the energy and volume than it did in 1980.