

Investigation 5: Earthquakes, Volcanoes, and Mountains

This investigation will help you to:

- Nature of Earthquakes
- Earthquake and Plate Movement
- Nature of Volcanoes
- Volcanoes and Plate Movement
- Association of Earthquakes and Volcanoes
- Mountain Building
- Information to complete part 8 of the investigation: Earthquakes
- Information to complete part 8 of the investigation: Volcanoes

To learn more about the nature of earthquakes, visit the following web sites:

Savage Earth, Restless Planet: Earthquakes, **PBS**

This web site accompanies the PBS *Series Savage Earth* and includes background information on the connection between faults, earthquakes, and seismic waves.

Virtual Courseware: Earthquake, **Virtual Courseware**

This site contains detailed pictures of earthquake damage. There are also activities such as travel time and epicenter to use along with a demonstration.

To learn more about earthquake and plate movement, visit the following web sites:

Earthquakes, Faults, Plate Tectonics, Earth Structure, **USGS**

Read answers to some commonly asked questions about earthquakes, faults, and plate tectonics. In some cases, the answers include links for further information.

Earthquakes and Plate Tectonics, **USGS Earthquakes Hazards Program**

This article aims to explain why earthquakes happen along plate boundaries, and often in the same area as volcanoes or mountain ranges.

Plate Tectonics, the Cause of Earthquakes, **Nevada Seismological Laboratory**

Review a technical explanation with images of different types of faults, spreading centers, or collision zones in connection to earthquakes.

To learn more about the nature of volcanoes, visit the following web sites:

Savage Earth, Mountains of Fire, **PBS**

This web site accompanies another portion of the documentary, *Savage Earth*, with general information about different types of volcanoes, the location of volcanoes, and different types of volcanic eruptions.

Volcanic Gases, **USGS Volcano Hazards Fact Sheet**

Discusses why volcanic gases are important to study, how geologists study volcanic gases, and what they have learned.

To learn more about volcanoes and plate movement, visit the following web sites:

Location of Volcanoes, **NASA Classroom of the Future**

Find out more about how and why volcanoes form along plate boundaries or above hot spots. Note the links to other related pages about plate tectonics and heat flow or looking inside the Earth.

To learn more about the association of earthquakes and volcanoes, visit the following web sites:

Earthquakes, Volcanoes, and Plate Tectonics, **USGS**

Map showing earthquakes and volcanoes in relation to plate movements.

Reply to Ask-An-Earth-Scientist, **University of Hawaii**

What is the relationship between volcanoes, earthquakes, and plate-tectonics? Find out what a geologist from the University of Hawaii said in response to this question.

To learn more about mountain building, visit the following web sites:

Mountain Building, **Okanagan University College**

Information, including diagrams, about the evolution of mountains.

Information to complete part 8 of the investigation: Earthquakes

Near Real-Time Current World Earthquakes Data, **United States Geological Survey, National Earthquake Information Center**

Find data on earthquakes that happen today all over the world.

Largest Earthquakes in the US, **USGS Earthquake Hazards Program**

There are two lists on this page: the top 15 earthquakes in the United States and the top 15 earthquakes in the contiguous United States. The reason being that eleven of the fifteen happened either in Alaska or Hawaii.

Unusual Events of March-April 1868, **Hawaiian Volcano Observatory**

Learn about the largest earthquake ever to hit the Hawaiian Islands.

Information About Past and Historical Earthquakes, **USGS**

This site contains chronicles of historic earthquakes that significantly changed the way scientists viewed the earth and earthquakes. Each event is unique in how it helped us better understand our world.

Historic Earthquakes, **About.com**

This page offers a centralized list of the worst earthquakes both in the US and around the world.

Information to complete part 8 of the investigation: Volcanoes

Volcanic Eruptions and Activity, **USGS**

This site lists links to historical volcanic eruptions.

Deadliest Volcanic Eruptions Since 1500 A.D., **USGS**

View social and scientific information on Deadly volcanic eruptions.

20th Century Volcanic Eruptions and Their Impact, **USGS**

View social and scientific information on volcanic eruptions that have happened since 1900.

Current Volcanic Activity, **USGS**

View links to current volcanic activity around the world.
