Chapter 3 ES: Earthquakes and Volcanoes

Section 2: Volcanoes

Objectives:

1. Explain how volcanoes form.

2. Describe the factors that contribute to the eruption style of a volcano.

3. Explain how volcanos are classified.

Essential Questions

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| How do volcanoes form? | Volcanoes are formed by the movement of Earth’s tectonic plates. |
| What factors contribute to the eruption style of a volcano? | Magma chemistry determines a volcano's eruptive style.  Dissolved gasses, specifically water vapor affect the explosive nature of an eruption.  Silica, SiO2 content also affect how explosive an eruption will be (viscosity). |
| How are volcanoes classified? | Volcanoes are classified based on their shapes and sizes.  See description below. |
| Key Terms: |  |
| Volcano | A volcano is a vent in Earth’s crust through which melted-or molten-rock flows. |
| Magma | Molten rock below Earth’s surface. |
| Lava | Molten rock that erupts onto Earth’s surface. |
| Hot Spot | Volcanoes that are not associated with plate boundaries. (Plume) |
| Shield Volcano | Are common along divergent plate boundaries and oceanic hot spots. Shield volcanoes are large, with gentle slopes of basaltic lavas. |
| Composite Volcanoes | Are large, steep sided volcanoes that result from explosive eruptions of andesitic and rhyolitic lava and ash along convergent plate boundaries. |
| Cinder Cone | Are small , steep-sided volcanoes that erupt gas-rich, basaltic lavas. |
| Volcanic ash | Tiny particles of pulverized volcanic rock and glass. |
| Viscosity | A liquid’s resistance to flow. |