Geology 200

Hawai‘i Volcanoes National Park

What is the pattern of rock ages in the Hawaiian-Emperor seamount chain? Explain the development of this pattern. What is a “hot spot”?

There is a bend in the Hawaiian-Emperor seamount chain. What is the significance of this bend?

The largest island in the chain is the “Big Island” of Hawai‘i. As you go to the northwest, the islands are smaller and smaller and northwest of Ni‘ihau the chain becomes a series of seamounts. Explain why the islands are smaller to the northwest.
What is the composition of most of the eruptions in Hawai`i? Describe the character of the lavas in Hawai`i using the term viscosity.

What is the difference in the surface appearance of aa lava and pahoehoe lava? What causes these differences in texture?

Explain and illustrate how a lava tube and lava levees form.
Some of the Hawai’ian eruptions are very violent. Explain how a volcano such as Kilauea can erupt quietly most of the time, but on some occasions erupt more like Mt. St. Helens.

Hawai’ian volcanoes are _______________ volcanoes. They normally erupt _______________viscosity lavas. The great width of these volcanoes is increased by _______________ eruptions. Movement of magma through fissures creates _______________ and _______________. It is possible that some of the large _______________ off the coast of Hawai’i were started by these events.

Explain (and illustrate when appropriate) how the following methods of are measured and used in Hawai’i to predict volcanic eruptions.

Earthquakes, uplift, volcanic gases, gravity, and magnetics

What are the most likely hazards from an eruption in Hawai’i? How are these hazards determined?