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Activities

Plumes from the Mantle

Name: _____ Date: _____

Although most volcanoes form along tectonic plate boundaries, some erupt far from the edges of the plates. In this Planet Diary activity, you'll visit Hawaii and Yellowstone National Park for a close look at "hotspot" volcanoes.

Directions

- Start at Hotspots: Mantle Thermal Plumes from USGS. Read the first paragraph. Look closely at the satellite picture of Hawaii and read the paragraph below it. Answer questions 1 and 2.
- Scroll to the picture of a hotspot plume creating the islands of Hawaii. Read its caption and the paragraph above the picture. Answer questions 3 and 4.
- What happens when magma reaches the surface? Check out these views of Hawaii's Kilauea volcano.
- Where are other hotspots found? Look at this hotspot map, then answer question 5.
- Return to hotspots to read about volcanic activity at Yellowstone. Answer the last question.
- Take this tour of Yellowstone National Park for a look at its geysers, hot springs, and mudpots.

Workspace

1. Describe how Hawaii formed.

2. How did Hawaii become a chain of islands?

3. Which Hawaiian island is now over the hotspot? Which island is farthest from it?

4. Compare the ages of the rocks on the islands you named in question 3.

5. Where are other hotspots are found on or near North America?

6. At Yellowstone, what evidence exists that hot magma bubbles up close to the surface?

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