



Enrichment

Fire and Ice!

Iceland is a land of fire and ice. Volcanoes, hot springs, and glaciers create a landscape of hot and cold contrasts. Every now and then, an earthquake shakes things up. The country is located right over the spreading Mid-Atlantic Ridge where the seafloor is tearing apart.

A Volcano Zone

As the Earth's plates move apart in a spreading ridge, fissures form. A long fissure zone with many shield volcanoes on its sides runs right through the southeastern and southwestern parts of Iceland. This zone is about 70 kilometers long. This has created many problems for the people of Iceland, since the volcanic eruptions often cause a lot of damage. Some cities have been damaged because they were built near what were erroneously thought to be inactive volcanoes.

Because much of Iceland is under ice, many small volcanic eruptions aren't seen, but they still melt a lot of water. The water is captured in a caldera, the center region of a volcano, where it then spills out every three to four years.

These water spills are called jökulhaups (yoh-kewl-owps) and can cause a great deal of destruction.

Putting Volcanoes to Use

The people of Iceland have learned to live with their volcanoes. Iceland is one of the most effective countries of the world in capturing the geothermal energy of Earth and using it to make electricity. When water seeps into the cracks of the fissures, it is superheated by magma. The water turns to steam and escapes through the top of the fissure as a geyser. This high-temperature steam is used to rotate turbine blades. In turn, the turbines produce electricity for use by the people. More than 70 percent of the homes in Iceland are heated and lighted by geothermal energy.

Iceland is a model for other countries when it comes to geothermal power. Geothermal energy is environmentally clean and will probably last a long time.

Meeting Individual Needs

- 1. Why does Iceland have so many volcanic eruptions?

- 2. How is geothermal energy captured in Iceland?

- 3. This type of energy is also called hydrothermal energy. Why do you think that is so?
