

Chapter 9

Use with Section 1

ENRICHMENT

● Forces Inside Earth

What causes earthquakes?

Long before people understood plate tectonics and the structure of Earth, they experienced earthquakes. They tried to explain what caused them.

Ancient Chinese myths stated that Earth rested on the shoulders of a great ox. Earth's ride on the ox was usually smooth. When the ox shifted the weight of Earth from one shoulder to another, however, the shift caused Earth to quake. The Algonquin of North America believed that Earth rode on the back of a huge tortoise. Earthquakes occurred when the tortoise shifted weight from one leg to another. Japanese mythology explained that the movements of a catfish buried deep in the mud beneath Earth caused earthquakes.

Many people related earthquakes to religion. Early Scandinavian myths said that earthquakes were caused by the god Loki writhing in pain when poison fell on his face. Legends told of Loki killing his brother. As a punishment, a snake dropped poison onto Loki's face. His wife would catch the poison in a bowl before it hit Loki. When the bowl filled, she went to empty

it. Then the poison landed on Loki and his writhing caused earthquakes.

Romanian legend noted that Earth rested on pillars of faith, hope, and charity. When people failed to keep one of these virtues, the pillar would weaken and cause earthquakes. Even as late as 1752, the Royal Society of England, a group of respected scientists, noted that "earthquakes only occur when people need chastening."

Aristotle, a Greek philosopher, offered a different explanation for earthquakes. He explained that Earth was filled with deep caverns that sucked up strong winds. When the winds were fanned by fires, they exploded into earthquakes or volcanoes. After Aristotle, many other philosophers believed explosions beneath Earth caused earthquakes.

Today scientists accept the relationship between plate tectonics and earthquakes. Advanced scientific study has helped solve the mystery of earthquakes. But they remain as frightening to present-day people as they were to people in the past.

1. Why do you think people have always tried to explain the causes of earthquakes? _____

2. If people believed that their actions could cause earthquakes, how might they try to prevent earthquakes? What might they think if an earthquake did occur? _____

3. Aristotle identified earthquakes as a natural phenomenon. Yet hundreds of years later, the Royal Society of England related earthquakes to human behavior. Why do you think the society did not relate earthquakes to natural phenomena? _____

