

# Pressure on the Earth's Crust

**Question: Where do the forces come from that bend, break, and move the Earth's crust?**

**Prior knowledge questions to ask your students:**  
What are the layers of the Earth? Which layer is on top?

## **Materials:**

Cardboard, glass bottle, scissors, water

## **Directions/Procedures:**

1. Cut a circle (slightly larger than the top of the bottle) from the cardboard.
2. Put the bottle in the freezer for  $\frac{1}{2}$  hour.
3. Remove the bottle from the freezer and set it on a table.
4. Dunk the cardboard circle in the water and then cover the bottle opening with the circle.
5. Quickly rub your hands together for about 15-20 seconds.
6. Place your hands around the bottle. Record your observations.

## **Journaling Suggestions**

What happened to the cardboard, and why? How is the cardboard like the plates in the Earth's crust?

## **What Happened?**

As your hands warmed the cold air inside the bottle, the air expanded and rose, much like the warm material in the mantle expands and rises. When pressure from the rising mantle builds inside the Earth, it pushes on all sides and will move parts that have weak spots to release the pressure, much like the air moved the cardboard. Volcanoes result from weak spots or plate edges that get pushed upward.