

The Chilean Earthquake

On February 27, 2010, an earthquake in Chile caused hundreds of deaths and forced over a million people from their homes. The earthquake, which had a magnitude of 8.8, was so powerful that it caused the Earth to shift slightly on its axis.

The Impact

The epicenter of the earthquake, the point on the Earth's surface directly above its center, was just off the coast of Chile.

1. Concepcion, Chile's second-largest city, is 70 miles from where the earthquake occurred.
 - a. Use the map scale to draw a large dot 70 miles west of Concepcion, Chile, to represent the quake's epicenter.
 - b. Label the dot **2/27/10**.
 - c. The quake occurred at the boundary between two plates of the Earth's crust. Draw a line along the coast of South America and through the epicenter to show the plate boundary.
 - d. In which ocean do these two plates meet? _____
2. The quake caused damage in many cities, but Concepcion suffered most of the destruction.
 - a. The earthquake lasted only 90 seconds, but it resulted in over 700 deaths. Near Concepcion, write **700+ LIVES LOST**.
 - b. Because the earthquake damaged many buildings in the region, more than one million people were forced to leave their homes. Near Concepcion, write **1 MILLION+ HOMELESS**.

Other Damage

Vibrations spread out from the center of the earthquake like ripples in a pond.

3. Depending on the material the vibrations passed through, the earthquake affected areas as far as 6,000 miles from the center.
 - a. Tremors were felt as far away as Peru. Near the top of your map, circle Peru's name.
 - b. Label the circle **TREMORS**.
 - c. The earthquake caused large waves called **tsunamis** all across the Pacific Ocean. Tsunamis reached as far north as Mexico and the United States. Along the coast of Chile, draw waves in the ocean spreading toward Peru to represent the tsunamis the quake caused.
4. The earth and rock of the Andes Mountains absorbed the quake's energy so tremors were not felt in Argentina. However, another earthquake occurred in South America on that same day.
 - a. This earthquake took place near the city of Salta in Argentina. Circle the city of Salta.
 - b. Use the map scale to estimate the distance between Salta and Concepcion. _____ miles