

Critical Understandings

Review the extended thinking prompts on the chart on page 16. Read the prompts that follow the passage to establish a purpose for reading. Then, read the passage and respond to the prompts.

Tsunami

A huge earthquake took place in the Pacific Ocean on March 11, 2011. The earthquake set off a tsunami, which was even worse. A tsunami is a series of powerful ocean waves. At a top speed of 500 miles per hour, the waves can flood an acre of ground in mere seconds. The surge of water can reach up to 100 feet high. With its combination of speed and size, a tsunami can damage everything for miles inland. It can destroy whole towns, including buildings, bridges, and property. A tsunami can kill thousands of people and animals.

Many earthquakes and tsunamis happen in the Pacific Ocean. The earth shakes when rocks shift along its cracks. Many of these cracks, also called faults, are below the Pacific Ocean. When the earth shifts along one of these faults, the movement pushes the water in the ocean up. This creates an enormous wave.

The tsunami of March 11, 2011, poured over northern Japan. It took days to determine that the wild waves had killed more than 11,000 people. In some cases, entire villages were washed away. Farmland was destroyed. It was the worst natural disaster in Japan in nearly 100 years.

A group called the Tsunami Warning System (TWS) checks conditions in the Pacific every day. When an earthquake or cyclone occurs, the TWS reports the data. It urges governments to take every precaution. When a tsunami is on the way, people must travel a long way inland to find safe shelter.

This is difficult for two reasons. First, a tsunami can hit islands like Japan or Hawaii minutes after the earthquake sets it off. This leaves little time to run for safety. Second, all tsunamis are created in deep ocean water, where they might be invisible to the TWS. They can only be seen when they reach shallow water. By then, the warning can come too late.

A volcanic eruption can also set off a tsunami. This happened in 1883 on the tropical island of Krakatau. Together, the explosion and the tsunami killed more than 35,000 people.

1. **Analyze** the job of the TWS.
