Tsunamis

Tsunami Waves

- **Tsunamis** are jolts of waves caused by underwater earthquakes.
    - Other shocks, such as volcanic eruptions, landslides, and meteorites can also cause tsunamis.

Study Tip

People who live by the coastline have to be aware of tsunamis so they could make necessary preparations in case a real event takes place.

- Tsunamis have small heights and long wavelengths, meaning that they are almost unnoticeable until they are nearing a shore. The bottom of the wave is slowed by friction, causing the wave to be unstable and deadly.
- The long wavelengths create a long time between crests and troughs.
- The waves of a tsunami can become very tall towards the coastline, potentially traveling far inland and causing large destruction of lives and property.

21st Century Tsunamis

- The Boxing Day Tsunami of 2004
    - On December 26, 2004, a deadly undersea earthquake created the worst tsunami recorded in history.
    - About 230,000 people died in eight different countries.
- Japan Tsundami of 2011
    - On March 2011, the Tōhoku earthquake offset a massive tsunami. It was very destructive, and damaged nuclear plants that created a lot of radioactive waste.

The Boxing Day Tsunami affected countries bordering the Indian ocean.

Tsunami Warning Systems

- Warning systems are important but are not useful in locations that are very close to the earthquake regions, since it does not allow enough time for people to get to high ground.

Concept Check

- What are tsunamis? What characteristics make them so dangerous?
- How much destructive potential do tsunamis have? How much energy do you think they carry?