

# What Is a Tsunami?

By Cindy Grigg

<sup>1</sup> A tsunami (sue NAH me) is a string of large ocean waves. Some people call it "a wave train" or a "tidal wave." Tsunamis, unlike normal ocean waves, are not caused by tides. The word tsunami comes from the Japanese. Tsunamis are caused by a sudden, large motion on the ocean floor. They can be caused by an earthquake under the ocean. Sometimes an underwater landslide or volcano is the cause. When one of these things happens, the energy passes through the ocean water. Just like the ripples from a rock being thrown into a pond, the energy released by one of these motions spreads out in all directions.



<sup>2</sup> The energy can travel many miles away. Tsunamis move at high speeds. Most tsunamis happen in the Pacific Ocean. In the deep waters, a tsunami may travel 450 miles per hour. Out in the ocean, a tsunami may be hard to see. As it comes close to shore, its speed slows down. The height of the wave builds. The tsunami may suddenly rise into a wave ten to one hundred feet high. These large waves are a disaster for coastal regions and people living there. Tsunami warning networks alert people living along coastlines in the Pacific Ocean. When a warning is sounded, people can move away from the coast to higher ground. The wavelength can be as long as 150 miles. This means the time (wave period) between the giant waves is long, too. Giant waves on shore can last for hours or even days after the earthquake or other disturbance.

<sup>3</sup> How can you tell when a tsunami is coming? If you are standing on a beach, it is normal for waves to move in and out regularly. When a tsunami comes toward a beach, the water suddenly pulls back a great distance like a massive low tide. This can cause fish and boats to be stranded on the beach. The retreat of water is really a trough, the lowest part of a tsunami wave. The tsunami waves may hit the shore in only a few minutes after the trough.

<sup>4</sup> Hawaii gets about one tsunami every year. Other states bordering the Pacific Ocean are also at risk. Alaska, California, Oregon and Washington have had damaging tsunamis, too.

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<p>1. What is a tsunami and what causes them?</p> <p>_____</p> <p>_____</p>	<p>2. What causes a tsunami?</p> <p><input type="radio"/> A Underwater earthquakes</p> <p><input type="radio"/> B Underwater landslide</p> <p><input type="radio"/> C Underwater volcano</p> <p><input type="radio"/> D All of the above</p>
<p>3. Make an inference; which of these is probably true?</p> <p><input type="radio"/> A Japan often has tsunamis.</p> <p><input type="radio"/> B The Atlantic Ocean never has tsunamis.</p> <p><input type="radio"/> C There is no way to know when a tsunami might hit.</p> <p><input type="radio"/> D All of the above</p>	<p>4. Which of these is <b>not</b> used to describe a part of a wave?</p> <p><input type="radio"/> A Wave period</p> <p><input type="radio"/> B Trough</p> <p><input type="radio"/> C Trench</p> <p><input type="radio"/> D Wavelength</p>
<p>5. How can people tell a tsunami is coming?</p> <p>_____</p> <p>_____</p>	<p>6. As the tsunami waves get close to shore, what happens?</p> <p><input type="radio"/> A The waves slow down.</p> <p><input type="radio"/> B The waves get higher.</p> <p><input type="radio"/> C The water retreats from the shoreline.</p> <p><input type="radio"/> D All of the above</p>

