

Name: _____

Terrifying Tsunamis

by Lydia Lukidis

Trust me, you don't want to get caught under a tsunami! Tsunamis are one of the world's most powerful natural forces. They can swallow up islands in minutes. They can flood and destroy villages. They can create huge amounts of damage.



But do you know exactly what a tsunami (pronounced soo-NAH-mee) is? They are huge, mighty waves in the ocean that grow as they reach the shore. Most tsunamis are actually caused by earthquakes. An earthquake happens when a big piece of the Earth's crust suddenly shifts. Basically, the Earth's crust is made up of large pieces called tectonic plates. These plates usually grind together. But sometimes, the plates get stuck. The pressure builds and they suddenly get slammed and are pushed into a new position. When the ocean floor moves, it creates big holes. The water floods in to fill these holes. When the water moves that quickly, it creates a huge wave. This is how tsunamis are born!

Other natural disasters like landslides, volcanic eruptions, and glaciers breaking off can also cause tsunamis. Once the water starts moving because of the force of the disaster, large waves begin to ripple out. These waves can move very fast. They have been recorded at speeds up to 500 miles per hour! They can also move across very long distances.

At first, the waves of the tsunami may not seem that tall. That's because when the waves travel through the deep parts of the ocean, the top of each wave is very short. But as that wave approaches shallower water, it grows in height. Remember, the tsunami travels quickly. If you are sitting on a beach, you may not see the wave coming at first. But when the wave arrives, it will be like a towering wall of water. Some waves are as tall as 100 feet high.

This wave will rush in and flood the area within minutes. It may be followed by other waves as well.

Though tsunamis can happen anywhere, they usually occur in specific areas like the Pacific Ocean. The countries along the coastline like Japan, Chile, or even the United States are more at risk. The biggest tsunami ever recorded happened in 1958 in Lituya Bay, Alaska. The massive wave was over 1,720 feet tall, and it wiped out trees, vegetation, and everything else in its way.

To increase public safety, scientists can detect when earthquakes are coming. They created the Pacific Tsunami Warning System, based in Hawaii. The detectors can track the earthquakes that may cause tsunamis. If the tsunami is detected early enough, people can be warned and can leave the coastline.

As scary as tsunamis can be, you don't need to worry too much about them. They don't happen that often. Only about two tsunamis happen every year. And it is said that massive, really destructive tsunamis only happen about every fifteen years. So don't worry, you will probably never experience one!

About the Author



Lydia Lukidis is a published children's author with a multi-disciplinary background that spans the fields of literature, theater, and puppetry. Lydia's picture book, *Gerbs in the House: The Dilly Dally Bedtime Routine*, is now available. Find out if Mocha will ever get his silly son to sleep!

Lukidis, Lydia. *Gerbs in the House: The Dilly Dally Bedtime Routine* ISBN: [978-0-9917402-7-7](https://www.amazon.com/dp/9780991740277)

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- Based on the information in the article, which natural disaster is **not** responsible for causing a tsunami?
 - tornado
 - volcanic eruption
 - earthquake
 - glacial movement
- Which of the following is true about tectonic plates?
 - Tectonic plates are solid pieces of the Earth's crust that cannot move or shift.
 - Tectonic plates sometimes cause earthquakes, but they cannot cause tsunamis.
 - Tectonic plates can get stuck until they slam past each other, releasing pressure.
 - Tectonic plates are special instruments used to tell scientists when a tsunami is coming toward land.
- According to the information in the article, would you be more likely to notice a tsunami forming in the deep ocean or near the coast? Why is this the case?

- Where would a tsunami be most likely to occur?
 - Cuba
 - New York City
 - coast of Ireland
 - Indonesia
- A tsunami forms in the deep ocean, 1,500 miles off the coast of Sri Lanka. If the tsunami is traveling at 500 miles an hour, how long will it take the tsunami to reach the coast of Sri Lanka?
 - 2 hours
 - 3 hours
 - 4 hours
 - 5 hours

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The scrambled words below are vocabulary words from the article. Unscramble each word and write it on the line. Please be sure each word is spelled correctly.

1. _____ g v t i a e n e o t
hint: all the plants in a particular area
2. _____ s e g i l a r c
hint: a slowly moving mass of ice
3. _____ r q e k e u a h a t
hint: sudden, violent shaking of the ground that is caused by shifting in the Earth's crust
4. _____ r s c u t
hint: the outermost layer of the Earth
5. _____ c t i o c e t n l e p t a s
hint: pieces of the Earth's crust that can move and shift, sometimes causing earthquakes and tsunamis
6. _____ s m s a v e i
hint: extremely large in size or scale
7. _____ s l n a i d e d l s
hint: natural disasters in which large amounts of falling rock or earth tumble down a mountain or cliff
8. _____ u l y t i a a B y
hint: site of the largest tsunami ever recorded
9. _____ p a p c e h s o a r
hint: moves closer; comes toward
10. _____ c t e r o d e t s
hint: devices designed to recognize when a tsunami forms and emit a response that acts as an alert

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In the article, "Terrifying Tsunamis," you learned that tectonic plates are responsible for causing earthquakes and tsunamis.



Using a science text book as a reference, describe another natural disaster that is caused by the activity of the Earth's tectonic plates. In your answer, be sure to explain how tectonic plates are responsible for that natural disaster, and what happens during the event.

ANSWER KEY

Terrifying Tsunamis

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1. Based on the information in the article, which natural disaster is **not** responsible for causing a tsunami? a.

- a. tornado
- b. volcanic eruption
- c. earthquake
- d. glacial movement

2. Which of the following is true about tectonic plates? c.

- a. Tectonic plates are solid pieces of the Earth's crust that cannot move or shift.
- b. Tectonic plates sometimes cause earthquakes, but they cannot cause tsunamis.
- c. Tectonic plates can get stuck until they slam past each other, releasing pressure.
- d. Tectonic plates are special instruments used to tell scientists when a tsunami is coming toward land.

3. According to the information in the article, would you be more likely to notice a tsunami forming in the deep ocean or near the coast? Why is this the case?

You would be more likely to see a tsunami near the coast than in the deep ocean because the wave grows very tall by the time it reaches the shore.

4. Where would a tsunami be most likely to occur? d.

- a. Cuba
- b. New York City
- c. coast of Ireland
- d. Indonesia

5. A tsunami forms in the deep ocean, 1,500 miles off the coast of Sri Lanka. If the tsunami is traveling at 500 miles an hour, how long will it take the tsunami to reach the coast of Sri Lanka?

b.

- a. 2 hours
- b. 3 hours
- c. 4 hours
- d. 5 hours

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The scrambled words below are vocabulary words from the article. Unscramble each word and write it on the line. Please be sure each word is spelled correctly.

1. **vegetation** g v t i a e n e o t
hint: all the plants in a particular area
2. **glaciers** s e g i l a r c
hint: slowly moving masses of ice
3. **earthquake** r q e k e u a h a t
hint: sudden, violent shaking of the ground that is caused by shifting in the Earth's crust
4. **crust** r s c u t
hint: the outermost layer of the Earth
5. **tectonic plates** c t i o c e t n l e p t a s
hint: pieces of the Earth's crust that can move and shift, sometimes causing earthquakes and tsunamis
6. **massive** s m s a v e i
hint: extremely large in size or scale
7. **landslides** s l n a i d e d l s
hint: natural disasters in which large amounts of falling rock or earth tumble down a mountain or cliff
8. **Lituya Bay** u L y t i a a B y
hint: site of the largest tsunami ever recorded
9. **approaches** p a p c e h s o a r
hint: moves closer; comes toward
10. **detectors** c t e r o d e t s
hint: devices designed to recognize when a tsunami forms and emit a response that acts as an alert

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