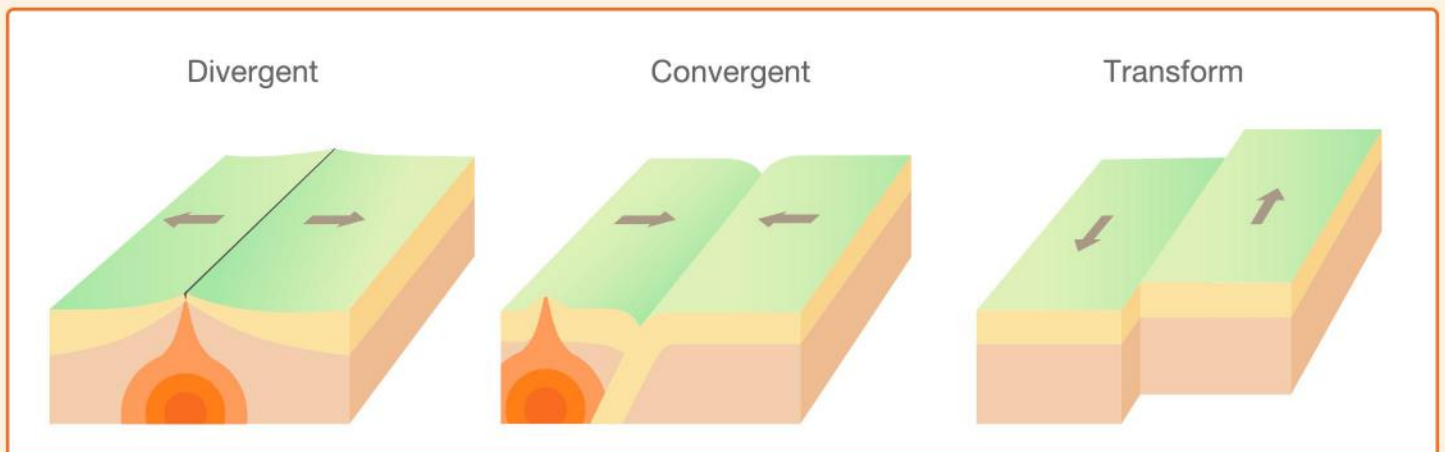


# What Is An Earthquake?

An earthquake, also known as a quake or a tremor, results from a violent movement of the tectonic plates in the earth's crust. They happen for a few seconds in an episode but tend to recur multiple times.

The movement or disturbance in the tectonic plates present in the earth's crust is the main cause of earthquakes. It could also be caused due to geologic faults or volcanic activities. The theory of plate tectonics states that the Earth's crust consists of different plates. There are three types of plate boundaries:



- **Transform boundaries:** These are areas where two plates slide past each other. Due to the friction between these plates, earthquakes are common in these regions.
- **Convergent boundaries:** These are areas where two tectonic plates collide. In the areas of convergent boundaries, volcanoes are common.
- **Divergent boundaries:** In these areas, the plates move apart from each other. Divergent boundaries on land might cause rift valleys, and those in the oceans may cause mid-oceanic ridges.

The sudden release of energy under the earth's crust creates waves of energy called **seismic waves**, and these waves cause the ground to shake violently. These waves are similar to the waves in the water.

Waves are of two types, namely body waves and surface waves. **Body waves** travel through the interior of the earth and are less destructive. **P waves and S waves** are the two different types of body waves. **Surface waves** cause a movement in the earth's crust and do not move too far but are more destructive. **Rayleigh waves and Love waves** are the two different types of surface waves.

- **P-type waves:** P waves are primary waves. They are the fastest waves. They are the first waves recorded by a seismograph during an earthquake.
- **S-type waves:** S waves are secondary waves. They are slower than P waves but are more destructive.
- **Rayleigh waves:** These are also called ground rolls. They travel on the surface of the earth, similar to the ripples on water. They can be felt in open spaces, such as parking lots, at the time of an earthquake, as the cars move up and down.
- **Love waves:** These waves travel slightly faster than the Rayleigh waves.

The Richter magnitude scale is used to measure the intensity of an earthquake. It is not a physical tool but a measuring system.

The physical tool used to measure the intensity of earthquakes is known as a seismograph.

**Answer the following questions based on your understanding of the text above:**

**1. What is an earthquake also known as?**

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**2. What are the causes of earthquakes?**

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**3. What is the main cause of earthquakes?**

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**4. What is the theory of plate tectonics?**

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**5. What are convergent boundaries?**

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**6. What are divergent boundaries?**

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**7. What are transform boundaries?**

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**8. What are seismic waves?**

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**9. What are P-type waves?**

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**10. What are S-type waves?**

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**11. What are Rayleigh waves?**

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**12. What are Love waves?**

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**13. What is the Richter scale?**

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**14. What is a seismograph?**

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