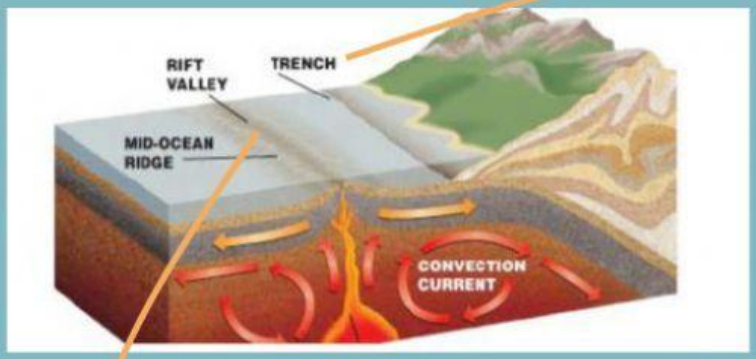
Why are earthquakes hard to predict?

Introduction

We live on a dynamic Earth, in which about twenty plates move on the fluid upper mantle. The plates interact with each other, some hit each other, some go under one another, and some just slide by each other. Most of the volcanoes and earthquakes on Earth happen where these plates meet.

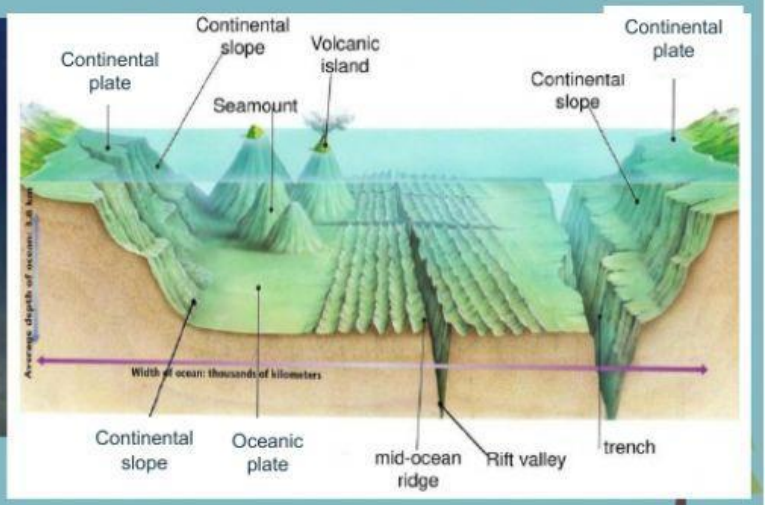
There are three types of plate interaction:
- Divergent Plate Boundaries
- Convergent Plate Boundaries
- Transform Plate Boundaries

1. Divergent Plate Boundaries are where plates are moving away from each other. This movement is found along the midocean ridges where new crust material is being created.









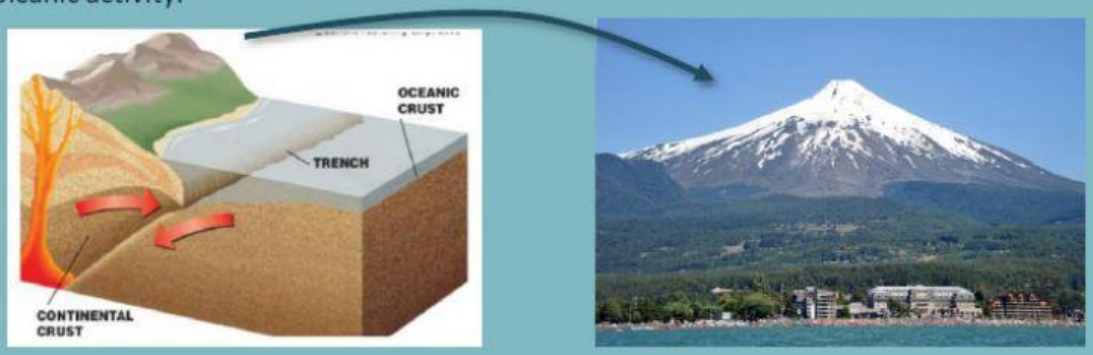
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2. Convergent Plate Boundaries are where one plate moves under a less dense crust. There are three types of convergent plate boundaries:

• ***Type I Ocean – Ocean:*** when the ocean crust of two plates meet usually forming volcanic islands.



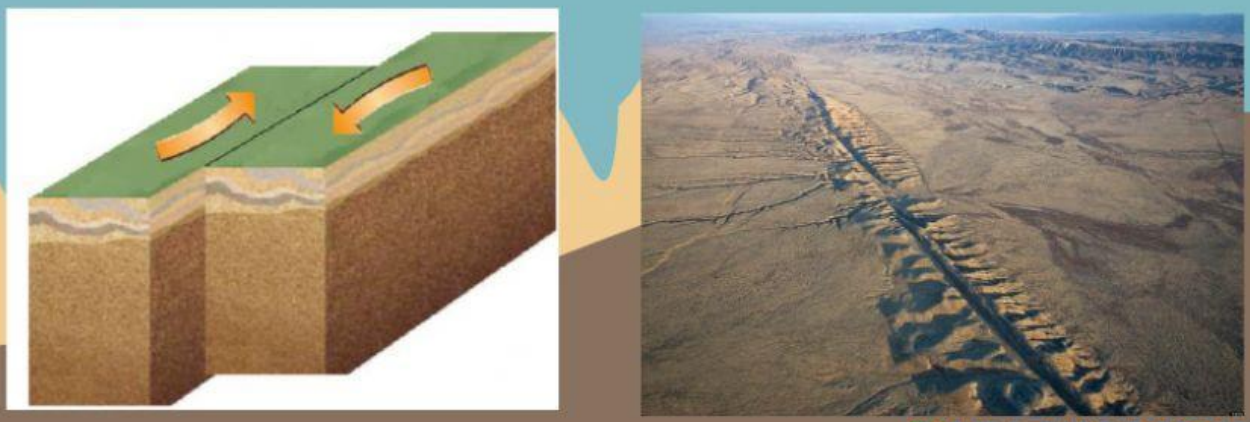
• ***Type II Ocean – Continental:*** when ocean crust subducts under continental crust form mountain chains and causes volcanic activity.



• ***Type III Continental – Continental:*** when two continental plates meet and raise up forming large mountains

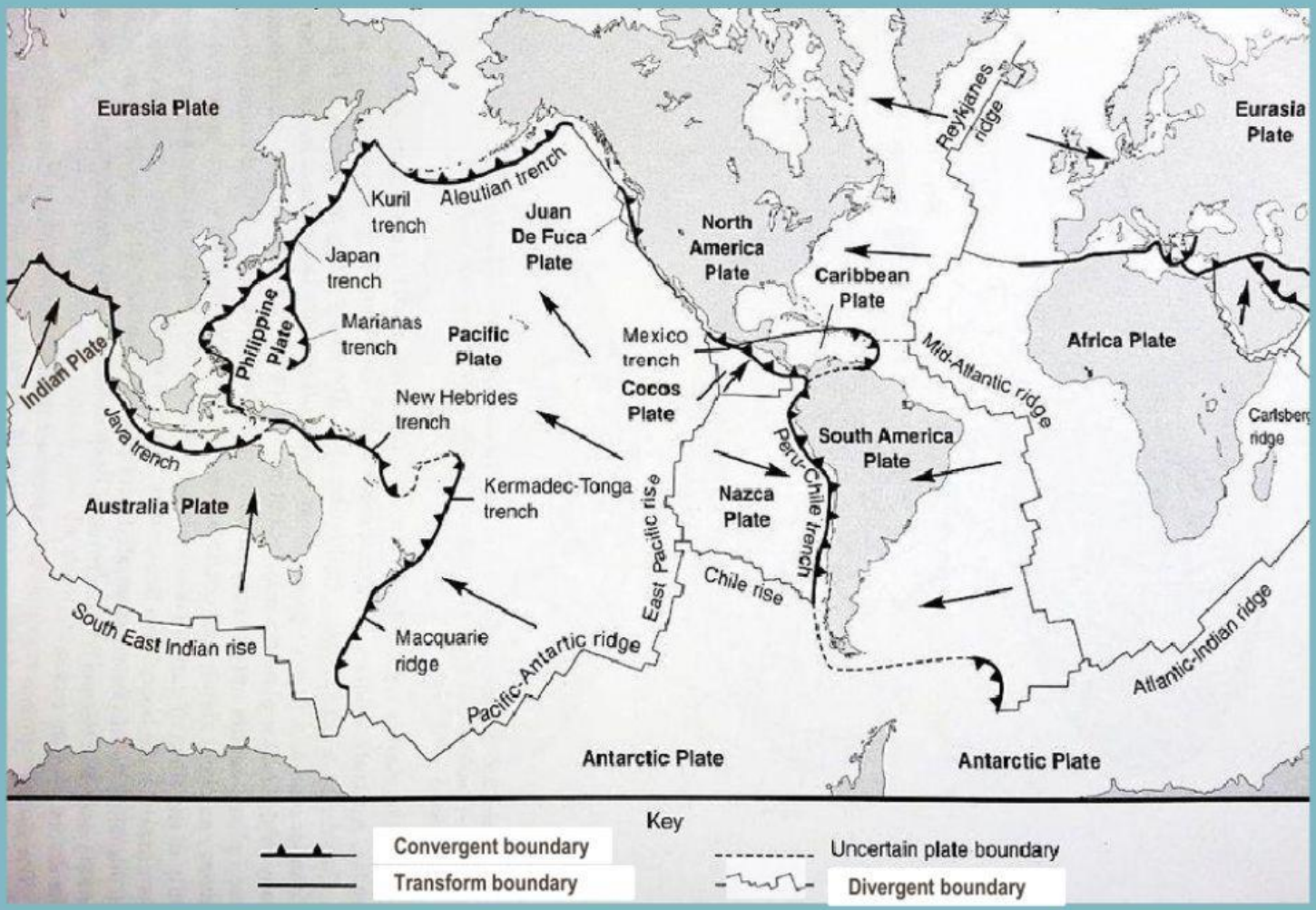


3. Transform Plate Boundaries are when plates move side by side with each other resulting in frequent earthquakes.



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Part 1. Use the following image of tectonic plate movement to answer the questions:



1. Are the Pacific Plate and the Antarctic Plate moving toward each other, away from each other, or sliding each other?

2. What type of formation is occurring between the Antarctic and Pacific plates?

3. What type of boundary separates the South American Plate from the Nazca Plate?

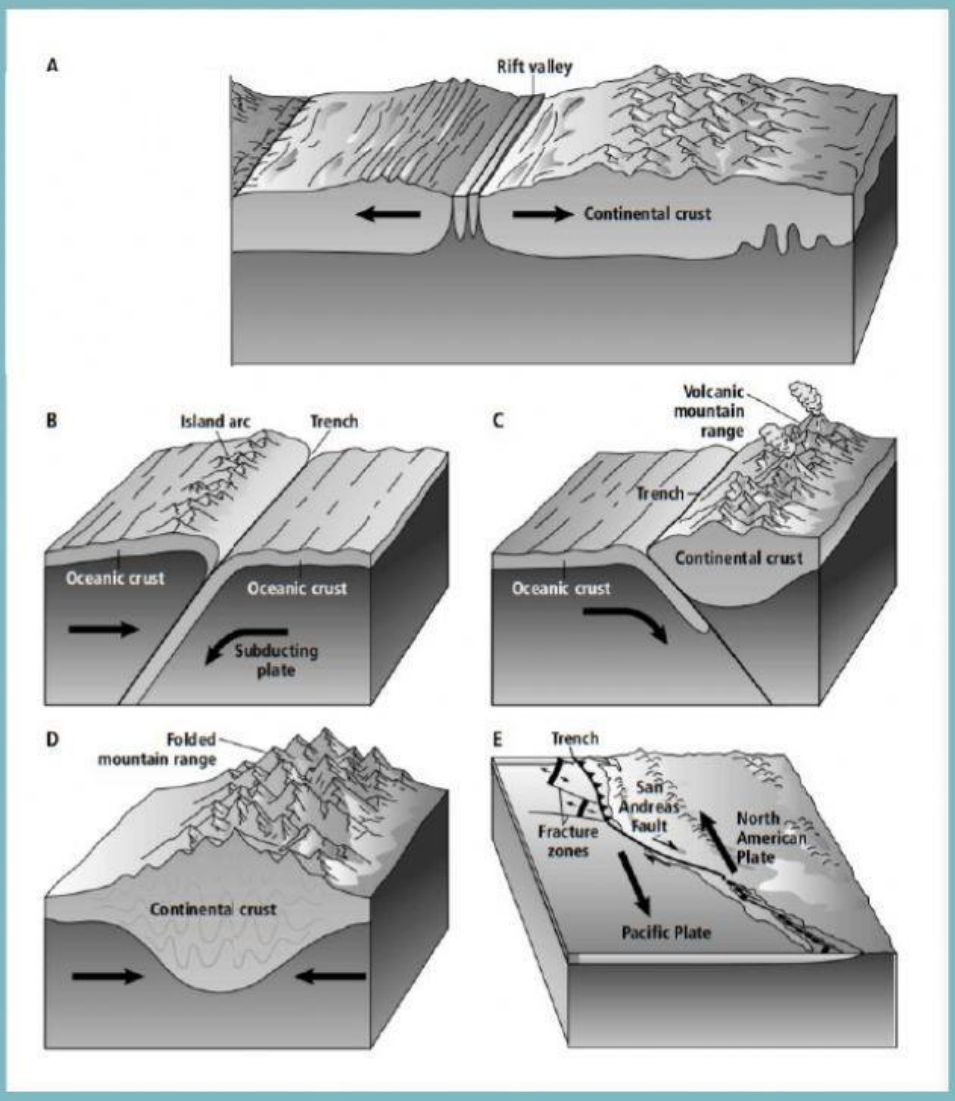
4. What type of formation is occurring between the South American Plate and the Nazca Plate?

5. The Himalayas are mountains that are formed as a result of the interaction of the Indian and Eurasian plates. Which type of plate boundary is between these plates?

6. Where do you think we can find the biggest amount of earthquake activity on Earth? Explain

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Part 2. Use the following image of tectonic plates to answer the questions:



1. Which diagram shows a divergent boundary?

2. Which diagram shows an oceanic-oceanic convergent boundary? Describe what occurs at this type of plate boundary

3. Which diagram shows an oceanic-continental convergent boundary? Describe what occurs at this type of plate boundary

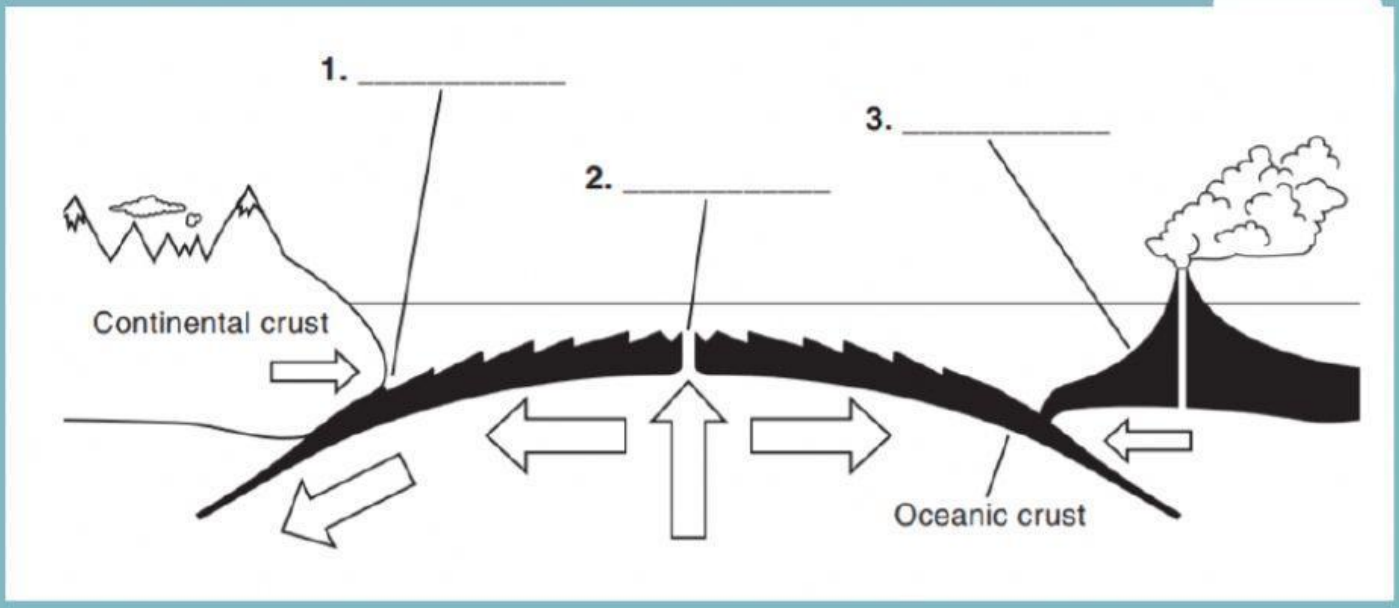
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Part 3. Match the description letter with the correct label in the diagram:

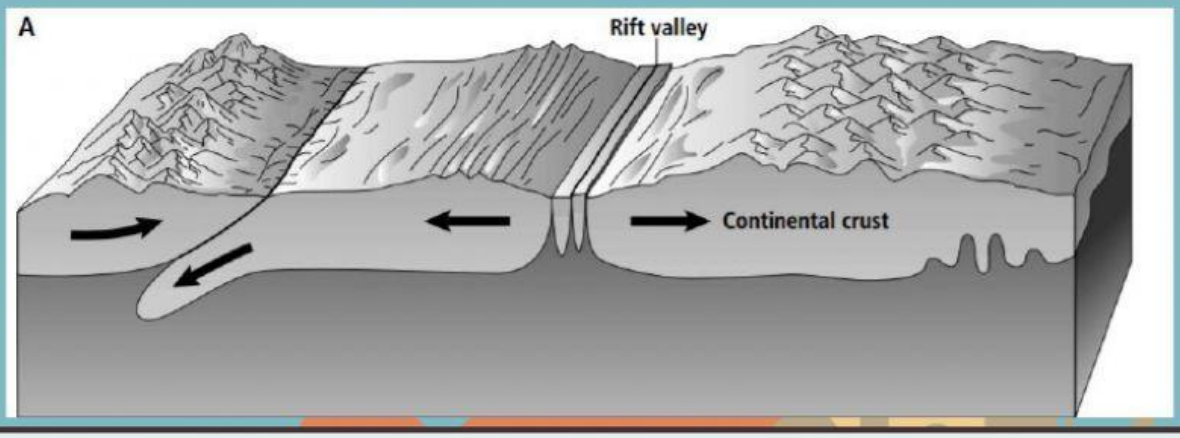
A. An ocean ridge forms when two plates move, this lets magma out from the mantle. As the rising magma cools, it forms new ocean crust.

B. When an oceanic plate interacts with a less dense continental plate, the denser oceanic plate sinks under the continental plate.

C. When two oceanic plates interact, the denser plate is moved under the other plate and volcanic islands form above the sinking plate.



Part 4. Look at the image and answer the question:



In the image we see a **divergent movement** of two plates. We cab also se a **convergent movement** of two plates.

How are this two tectonic plate movements related?

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