

6 Plate Tectonics

International Review of **EARTH SCIENCE**

Breaking Ground

NEW DATA ON THE SHIFTING EARTH



65 million years ago

21st century

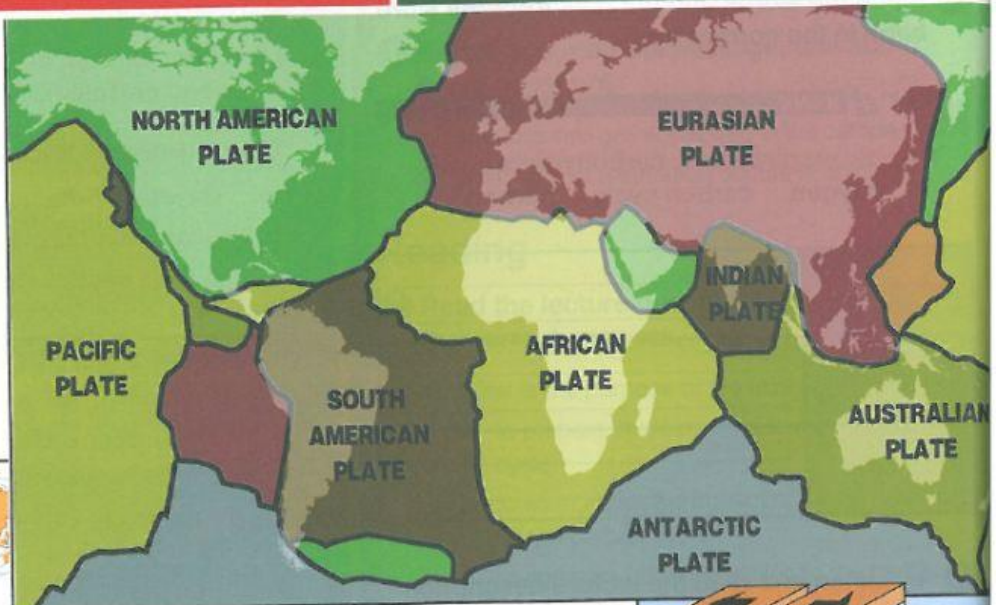
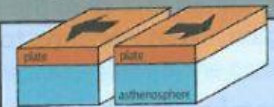


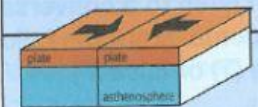
Plate tectonics is nothing new. Scientists have known about the Earth's surface movement for decades. However, a new study shows startling new data. A few **tectonic plates** are moving faster than we thought. Geographical changes along some **boundaries** will occur sooner than expected.

Dr. Albert Roca began the study on West Cile Island. Increased earthquake activity was reported along the **fault**. He measured movements on the **transform boundary**. Dr. Roca's report concerned residents. He predicts that significant geological changes will occur in a few hundred years.

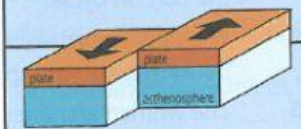
Dr. Roca also examined a **divergent boundary** off the coast. The movement of two **oceanic** plates is causing **seafloor spreading**. Although the movement occurs mid-ocean, it may have **continental** effects. When a plate moves, its **continents** also move. **Convergent boundaries** will likely form on the opposite sides of each plate. Fortunately, we still won't see the effects for thousands of years. This type of **continental drift** occurs slowly.



divergent



convergent



transform

Get ready!

- 1 Before you read the passage, talk about these questions.

- 1 What are some tectonic plate boundaries?
- 2 What happens in the ocean at divergent plate boundaries?

Reading

- 2 Read the article. Then, mark the following statements as true (T) or false (F).

- 1 ___ The fault on the island creates a transform boundary.
- 2 ___ According to the study, oceanic plates are not likely to affect the continents.
- 3 ___ The scientist predicts significant continental drift within a few hundred years.

Vocabulary

- 3 Match the words (1-6) with the definitions (A-F).

- | | |
|-----------------------|--------------------------|
| 1 ___ oceanic | 4 ___ continental drift |
| 2 ___ continental | 5 ___ seafloor spreading |
| 3 ___ plate tectonics | 6 ___ transform boundary |

- A the science of the movement of the Earth's surface
- B the movement of land over time
- C an area where two plates slide against each other
- D the formation of new crust at the bottom of the ocean
- E existing or occurring in the ocean
- F existing or occurring on land

- 4 Read the sentence pairs. Choose where the words best fit the blanks.

1 convergent boundary / divergent boundary

- A One plate moving under another plate forms a _____.
- B Plates moving away from each other form a _____.

2 faults / tectonic plates

- A Gaps in the Earth's surface create _____.
- B _____ slide against each other at transform boundaries.

3 boundaries / continents

- A The Earth's landmass is separated into several _____.
- B There are a few types of _____ between tectonic plates.

- 5 Listen and read the article again. When do continents move?

Listening

- 6 Listen to a conversation between a student and an instructor. Choose the correct answers.

- 1 What is the main idea of the conversation?
- A when tectonic plates are most likely to collide
- B how to identify different types of boundaries
- C where to find notable faults on major continents
- D which movements cause the most surface disruption
- 2 Which concept confuses the woman?
- A transform boundaries
- B continental drift
- C seafloor spreading
- D divergent boundaries

- 7 Listen again and complete the conversation.

Student: Okay. So the plates don't collide at a 1 _____?

Instructor: No. They just 2 _____ each other.

Student: I just can't picture it. What's 3 _____?

Instructor: Imagine two cars on a road. They pass each other while traveling 4 _____. That's like what happens at a transform boundary.

Student: Oh, I think I get it. One slides 5 _____ of the other.

Instructor: That's 6 _____.

Speaking

- 8 With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

And which boundary ...?

That's what I'm not ...

Imagine a ... That's what happens ...

Student A: You are a student. Talk to Student B about:

- tectonic plate boundaries
- the differences between boundaries
- how plates move

Student B: You are an instructor. Talk to Student A about tectonic plate boundaries.

Writing

- 9 Use the article and the conversation from Task 8 to fill out the poster.

Boundary:	Plate Movements:
Convergent boundary	