

6 Plate Tectonics

International Review of EARTH SCIENCE

Breaking Ground

NEW DATA ON THE SHIFTING EARTH

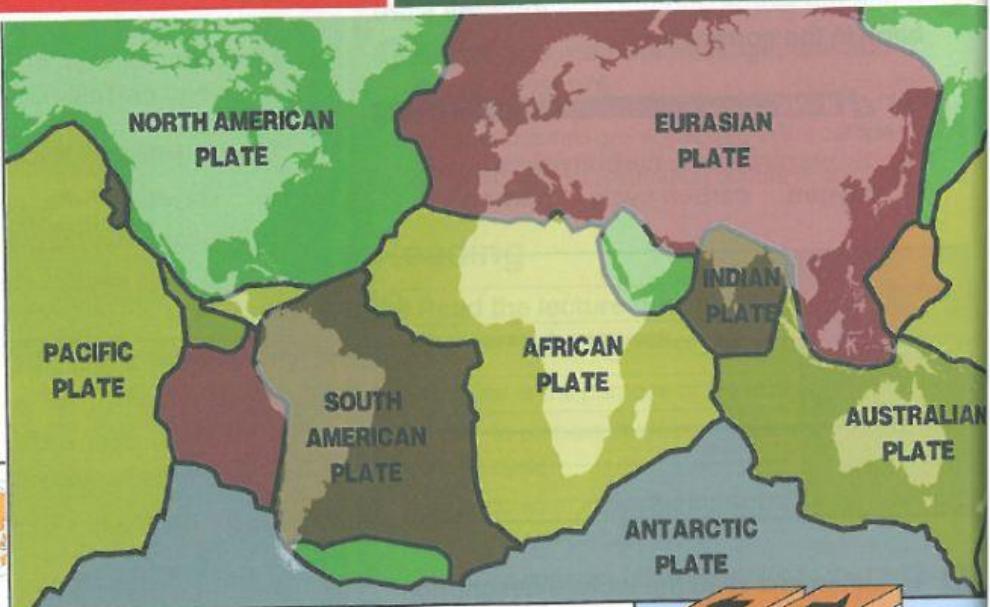
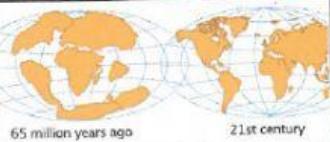


Plate tectonics is nothing new. Scientists have known about the Earth's surface movement for decades. However, a new study shows startling new data. A few **tectonic plates** are moving faster than we thought. Geographical changes along some **boundaries** will occur sooner than expected.

Dr. Albert Roca began the study on West Cale 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.

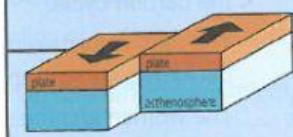
Dr. Roca also examined a **divergent boundary** off the coast. The movement of two **oceanic** plates is causing **seafloor spreading**. Although the movement occurs mid-ocean, it may have **continental** effects. When a plate moves, its **continents** also move. **Convergent boundaries** will likely 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	_____ _____ _____