Name _____

Holding the Purse Strings

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Justice Oliver Wendell Holmes _____.
   - Ⓐ thought Congress should not spend tax money
   - Ⓑ did not think taxes were necessary
   - Ⓒ did not think a civilized society needed taxes
   - Ⓓ thought taxes were necessary for society

2. Sales tax is _____.
   - Ⓐ taken from income
   - Ⓑ an estimate
   - Ⓒ added to the cost of purchases
   - Ⓓ a portion of corporate earnings

3. What are two of the functions of the United States Congress?

   _____

   _____

4. Name some things that benefit you and are made possible by taxes.

   _____

   _____

5. Explain the phrase "the American people hold the purse strings" from paragraph 4.

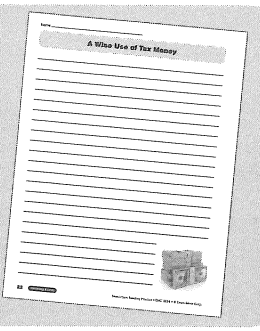
   _____

   _____

Write About the Topic

Use the Writing Form to write about what you read.

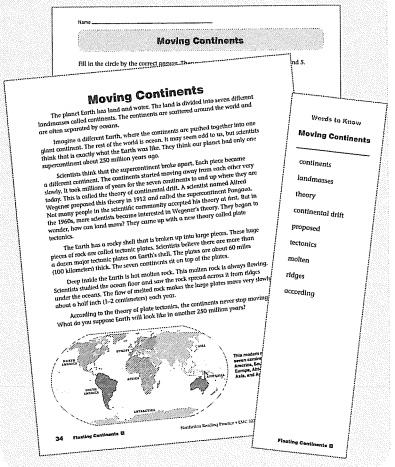
Propose a way that tax money could be used to make improvements to your community.



Floating Continents

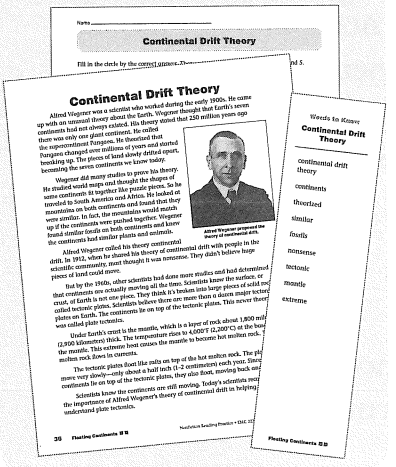
Level 1 ■

Words to Know list, Reading Selection, and Reading Comprehension questions



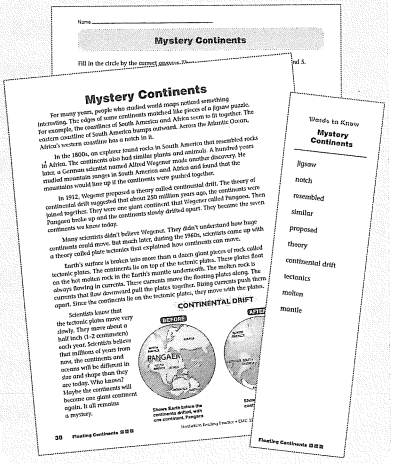
Level 2 ■■

Words to Know list, Reading Selection, and Reading Comprehension questions



Level 3 ■■■

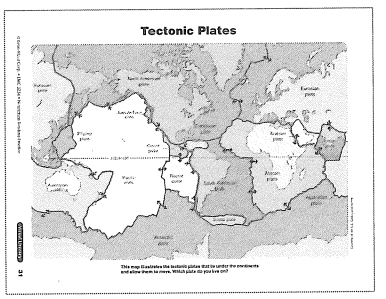
Words to Know list, Reading Selection, and Reading Comprehension questions



Assemble the Unit

Reproduce and distribute one copy for each student:

- Visual Literacy page: Tectonic Plates, page 31
- Level 1, 2, or 3 Reading Selection and Reading Comprehension page and the corresponding Words to Know list
- Graphic Organizer of your choosing, provided on pages 180–186
- Writing Form: The Continents, page 32



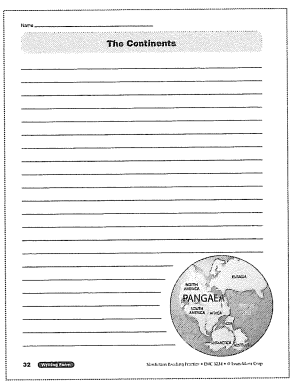
Visual Literacy

Introduce the Topic

Read aloud and discuss the Tectonic Plates map. Explain that the theory of plate tectonics says the plates float on hot molten rock underneath Earth's crust. Tell students that this explains why the continents have moved for millions of years and still do.

Read and Respond

Form leveled groups and review the Words to Know lists with each group of students. Instruct each group to read their selection individually, in pairs, or as a group. Have students complete the Reading Comprehension page for their selection.

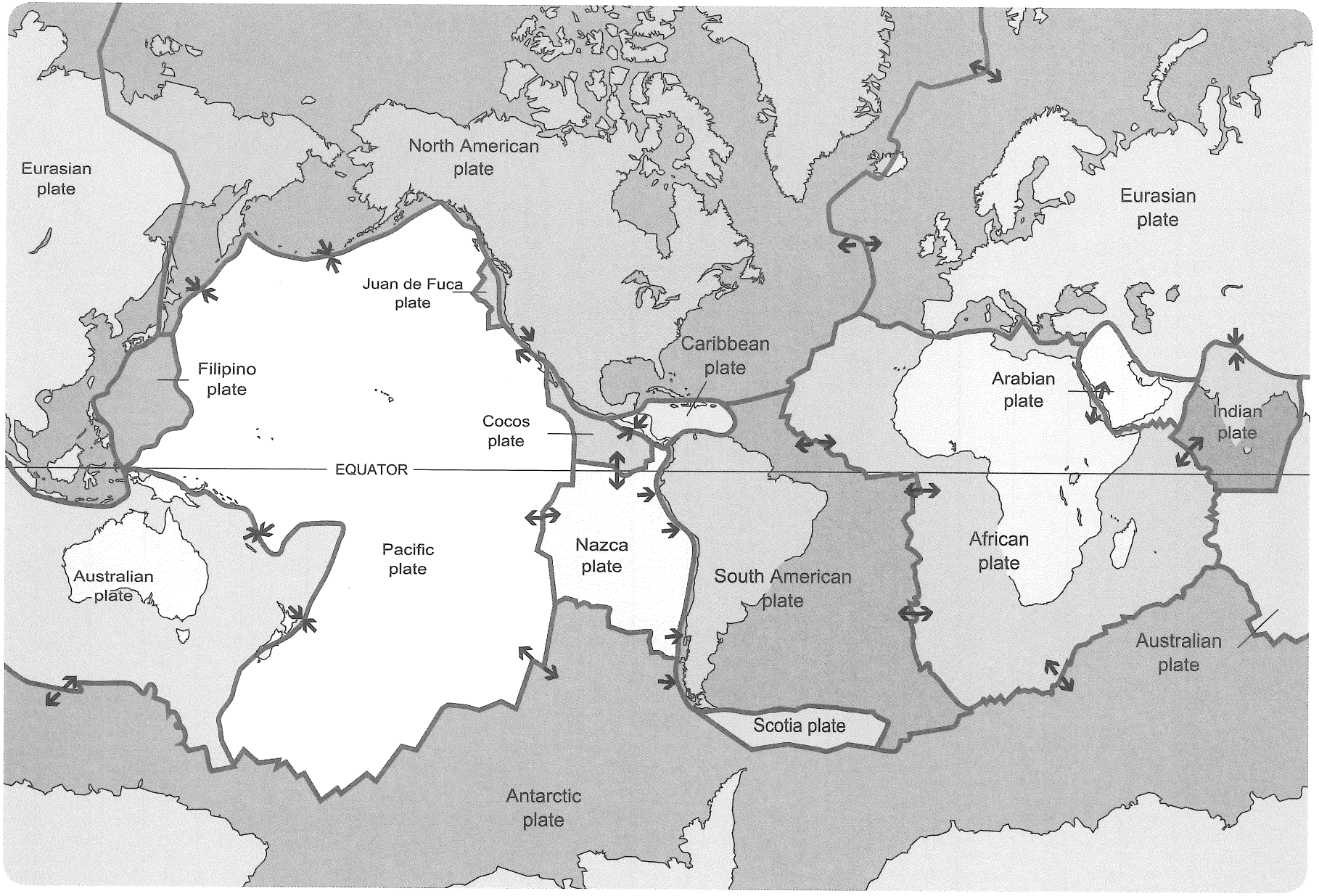


Writing Form

Write About the Topic

Read aloud the leveled writing prompt for each group. Tell students to use the Graphic Organizer to plan their writing. Direct students to use their Writing Form to respond to their prompt.

Tectonic Plates

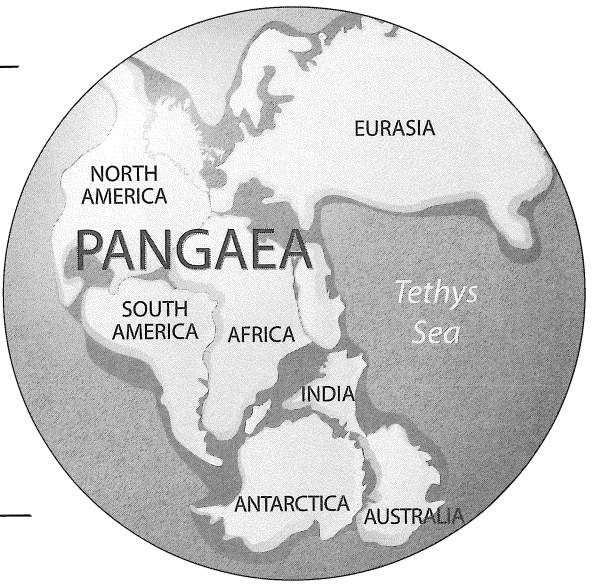


Courtesy of the U.S. Geological Survey

This map illustrates the tectonic plates that lie under the continents and allow them to move. Which plate do you live on?

Name _____

The Continents



Words to Know

Moving Continents

continents

landmasses

theory

continental drift

proposed

tectonics

molten

ridges

according

Floating Continents ■

Words to Know

Continental Drift Theory

continental drift theory

continents

theorized

similar

fossils

nonsense

tectonic

mantle

extreme

Floating Continents ■■

Words to Know

Mystery Continents

jigsaw

notch

resembled

similar

proposed

theory

continental drift

tectonics

molten

mantle

Floating Continents ■■■

Moving Continents

The planet Earth has land and water. The land is divided into seven different landmasses called continents. The continents are scattered around the world and are often separated by oceans.

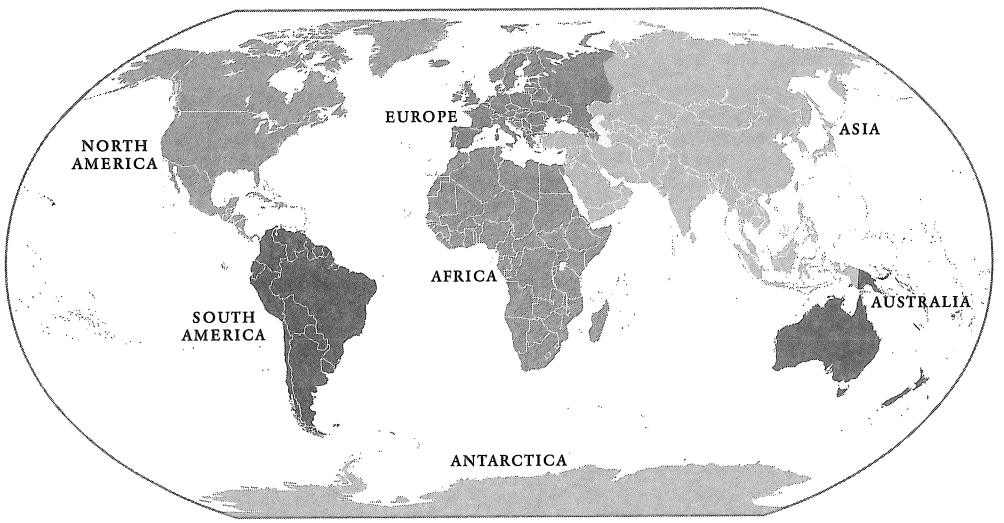
Imagine a different Earth, where the continents are pushed together into one giant continent. The rest of the world is ocean. It may seem odd to us, but scientists think that is exactly what the Earth was like. They think our planet had only one supercontinent about 250 million years ago.

Scientists think that the supercontinent broke apart. Each piece became a different continent. The continents started moving away from each other very slowly. It took millions of years for the seven continents to end up where they are today. This is called the theory of continental drift. A scientist named Alfred Wegener proposed this theory in 1912 and called the supercontinent Pangaea. Not many people in the scientific community accepted his theory at first. But in the 1960s, more scientists became interested in Wegener's theory. They began to wonder, how can land move? They came up with a new theory called plate tectonics.

The Earth has a rocky shell that is broken up into large pieces. These huge pieces of rock are called tectonic plates. Scientists believe there are more than a dozen major tectonic plates on Earth's shell. The plates are about 60 miles (100 kilometers) thick. The seven continents sit on top of the plates.

Deep inside the Earth is hot molten rock. This molten rock is always flowing. Scientists studied the ocean floor and saw the rock spread across it from ridges under the oceans. The flow of melted rock makes the large plates move very slowly, about a half inch (1–2 centimeters) each year.

According to the theory of plate tectonics, the continents never stop moving. What do you suppose Earth will look like in another 250 million years?



This modern map shows seven continents: North America, South America, Europe, Africa, Antarctica, Asia, and Australia.

Name _____

Moving Continents

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. The term *Pangaea* describes _____.
   - Ⓐ one of the seven continents
   - Ⓑ one supercontinent
   - Ⓒ a tectonic plate
   - Ⓓ modern-day Earth

2. Landmasses can move because _____.
   - Ⓐ Earth's surface is one solid piece
   - Ⓑ tectonic plates are stuck
   - Ⓒ Earth's plates float on molten rock
   - Ⓓ heat flowing inside the Earth melts the plates

3. What is the importance of molten rock to the theory of plate tectonics? Explain.

_____

_____

4. What did scientists of his time think about Wegener's theory? In your opinion, why was that?

_____

_____

5. What is the main idea of paragraph 3?

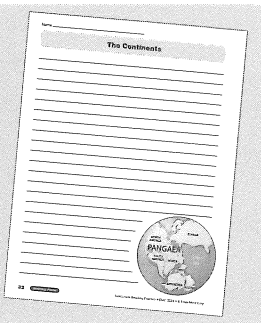
_____

_____

Write About the Topic

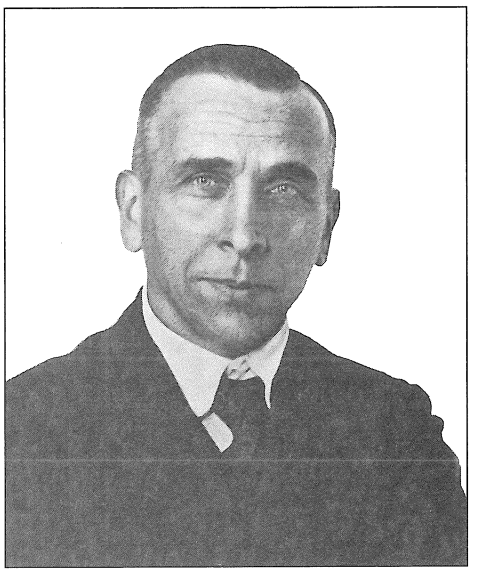
Use the Writing Form to write about what you read.

Imagine what the Earth will look like in another 250 million years. Write a description.



Continental Drift Theory

Alfred Wegener was a scientist who worked during the early 1900s. He came up with an unusual theory about the Earth. Wegener thought that Earth's seven continents had not always existed. His theory stated that 250 million years ago there was only one giant continent. He called the supercontinent Pangaea. He theorized that Pangaea changed over millions of years and started breaking up. The pieces of land slowly drifted apart, becoming the seven continents we know today.



Alfred Wegener proposed the theory of continental drift.

Wegener did many studies to prove his theory. He studied world maps and thought the shapes of some continents fit together like puzzle pieces. So he traveled to South America and Africa. He looked at mountains on both continents and found that they were similar. In fact, the mountains would match up if the continents were pushed together. Wegener found similar fossils on both continents and knew the continents had similar plants and animals.

Alfred Wegener called his theory continental drift. In 1912, when he shared his theory of continental drift with people in the scientific community, most thought it was nonsense. They didn't believe huge pieces of land could move.

But by the 1960s, other scientists had done more studies and had determined that continents are actually moving all the time. Scientists know the surface, or crust, of Earth is not one piece. They think it's broken into large pieces of solid rock called tectonic plates. Scientists believe there are more than a dozen major tectonic plates on Earth. The continents lie on top of the tectonic plates. This newer theory was called plate tectonics.

Under Earth's crust is the mantle, which is a layer of rock about 1,800 miles (2,900 kilometers) thick. The temperature rises to 4,000°F (2,200°C) at the base of the mantle. This extreme heat causes the mantle to become hot molten rock. This molten rock flows in currents.

The tectonic plates float like rafts on top of the hot molten rock. The plates move very slowly—only about a half inch (1–2 centimeters) each year. Since the continents lie on top of the tectonic plates, they also float, moving back and forth.

Scientists know the continents are still moving. Today's scientists recognize the importance of Alfred Wegener's theory of continental drift in helping them understand plate tectonics.

Name _____

Continental Drift Theory

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. As used in this text, a "theory" _____.
   - Ⓐ cannot be changed
   - Ⓑ is a wrong answer
   - Ⓒ is an opinion based on a hunch
   - Ⓓ is based on observation and reasoning

2. Alfred Wegener's theory was called _____.
   - Ⓐ continental plates
   - Ⓑ continental drift
   - Ⓒ Pangaea
   - Ⓓ Earth's currents

3. List two observations that led Wegener to conclude that the continents had drifted.

   _____

   _____

4. What did scientists of Wegener's time think about the theory of continental drift?

   _____

   _____

5. Explain how Wegener's theory led to the theory of plate tectonics.

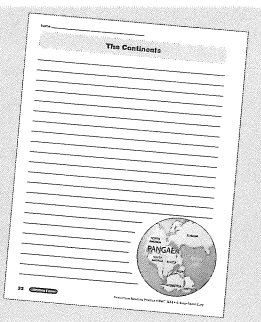
   _____

   _____

Write About the Topic

Use the Writing Form to write about what you read.

Imagine you are Alfred Wegener. Explain your theory of continental drift.



Mystery Continents

For many years, people who studied world maps noticed something interesting. The edges of some continents matched like pieces of a jigsaw puzzle. For example, the coastlines of South America and Africa seem to fit together. The eastern coastline of South America bumps outward. Across the Atlantic Ocean, Africa's western coastline has a notch in it.

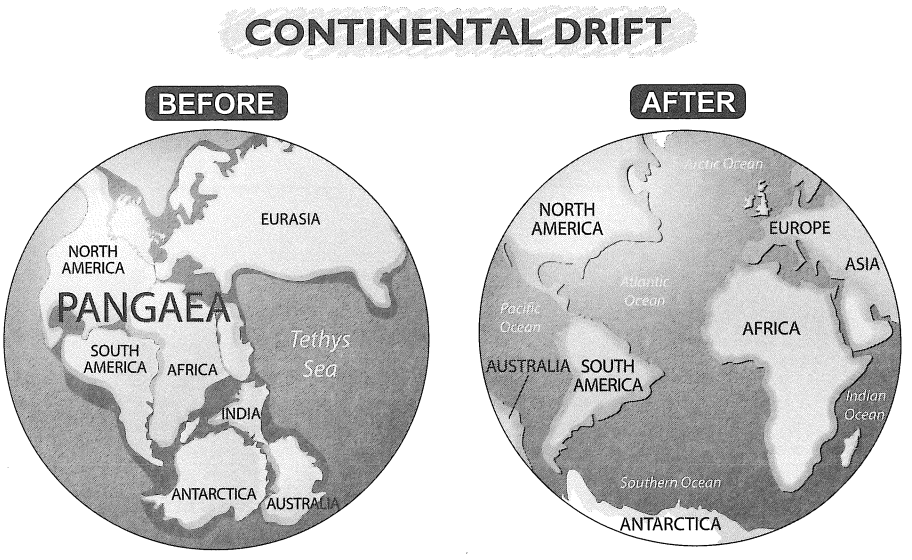
In the 1800s, an explorer found rocks in South America that resembled rocks in Africa. The continents also had similar plants and animals. A hundred years later, a German scientist named Alfred Wegener made another discovery. He studied mountain ranges in South America and Africa and found that the mountains would line up if the continents were pushed together.

In 1912, Wegener proposed a theory called continental drift. The theory of continental drift suggested that about 250 million years ago, the continents were joined together. They were one giant continent that Wegener called Pangaea. Then Pangaea broke up and the continents slowly drifted apart. They became the seven continents we know today.

Many scientists didn't believe Wegener. They didn't understand how huge continents could move. But much later, during the 1960s, scientists came up with a theory called plate tectonics that explained how continents can move.

Earth's surface is broken into more than a dozen giant pieces of rock called tectonic plates. The continents lie on top of the tectonic plates. These plates float on the hot molten rock in the Earth's mantle underneath. The molten rock is always flowing in currents. These currents move the floating plates along. The currents that flow downward pull the plates together. Rising currents push them apart. Since the continents lie on the tectonic plates, they move with the plates.

Scientists know that the tectonic plates move very slowly. They move about a half inch (1–2 centimeters) each year. Scientists believe that millions of years from now, the continents and oceans will be different in size and shape than they are today. Who knows? Maybe the continents will become one giant continent again. It all remains a mystery.



Shows Earth before the continents drifted, with one continent, Pangaea

Shows Earth with seven continents today