

Plate Tectonics ▪ *Review and Reinforce*

Drifting Continents

Understanding Main Ideas

Fill in the blanks in the table below.

Types of Evidence	Example of Evidence
Evidence from 1. _____	a. Mountain ranges in South America and 2. _____ line up b. European coal fields match with similar coal fields in North America
Evidence from Fossils	a. Fossils of the plant 3. _____ found in rocks on widely separated landmasses
Evidence from 4. _____	a. Fossils of tropical plants found near Arctic Ocean b. Scratches in rocks made by 5. _____ found in South Africa

Answer the following questions on a separate sheet of paper.

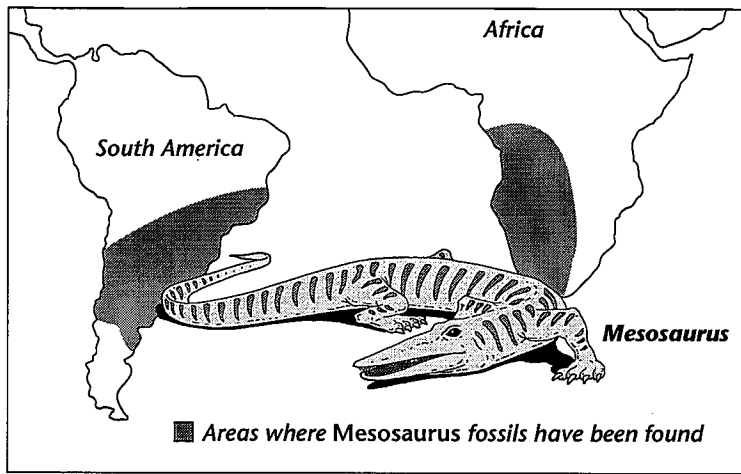
6. State the hypothesis of continental drift.
7. Why did most scientists reject Wegener's theory for nearly a half century?

Building Vocabulary

Fill in the blank to complete each statement.

8. All the continents were once joined together in a supercontinent called _____, meaning "all lands."
9. A(n) _____ is any trace of an ancient organism preserved in rock.
10. Wegener's theory that the continents slowly moved over Earth's surface became known as _____.

The Curious Case of *Mesosaurus*



About 265 million years ago, a reptile called *Mesosaurus* lived in just a few places on Earth. This fairly small, lizard-like reptile measured 71 centimeters from its nose to the tip of its tail—or about two thirds of a meter. Its body was long and flexible, perfect for swimming swiftly through the water. *Mesosaurus* was a hunter of small fish and other aquatic animals. Its webbed feet and long tail worked like powerful paddles as it chased and captured its food. Like all other reptiles, *Mesosaurus* breathed air, so it had to return to the surface after hunting underwater. Freshwater ponds and lakes were its habitat.

In the 1800s, scientists began finding fossils of these ancient reptiles, which had long since become extinct. These fossils were found in only two regions, southern Africa and the southern part of South America. The shaded areas on the map show where fossils of *Mesosaurus* have been discovered. This distribution is a curious one—only two regions far from each other and separated by the Atlantic Ocean. What could explain this distribution?

Answer the following questions on a separate sheet of paper.

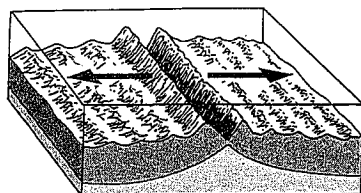
1. Describe the kind of environment in which *Mesosaurus* lived.
2. Is it likely that *Mesosaurus* swam back and forth across the Atlantic Ocean? Explain.
3. What could explain this distribution of *Mesosaurus* fossils?
4. Does the case of *Mesosaurus* support Wegener's theory of continental drift? Explain why or why not.
5. Does the case by itself prove the theory? Explain why or why not.

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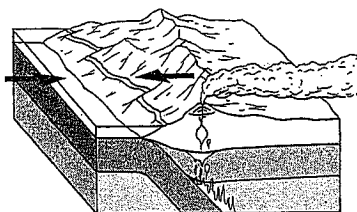
The Theory of Plate Tectonics

Understanding Main Ideas

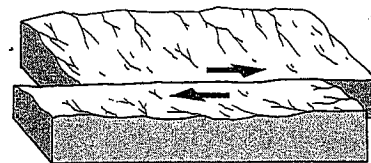
Label each figure by writing the type of plate boundary it shows.



1. _____



2. _____



3. _____

Answer the following questions on a separate sheet of paper.

4. Describe what happens when a. two plates carrying oceanic crust collide, b. two plates carrying continental crust collide, and c. a plate carrying oceanic crust collides with a plate carrying continental crust.
5. Explain what force caused the movement of the continents from one supercontinent to their present positions.

Building Vocabulary

Fill in the blank to complete each statement.

6. A scientific _____ is a well-tested concept that explains a wide range of observations.
7. Breaks in Earth's crust where rocks have slipped past each other are called _____.
8. The lithosphere is broken into separate sections called _____.
9. A(n) _____ is a deep valley on land that forms along a divergent boundary.
10. The geological theory that states that pieces of Earth's crust are in constant, slow motion is called _____.