

**Lesson 6**

**Pangaea, the Supercontinent**

**meteorologist:** someone who studies meteorology, or the science of weather and Earth's atmosphere

**organisms:** living things, like people, plants, or animals

**land bridges:** pieces of land that connect two larger landmasses

**continental drift:** the theory that the continents drift through Earth's oceans

**plate tectonics:** the widely accepted theory that Earth's crust is divided into sections, called *plates*, that move around the planet; this theory has replaced the earlier, less correct theory of continental drift

In February of 2007, a stegosaurus fossil was found in Europe. Evidence of this dinosaur had never before been found outside of North America. This discovery became one more piece of evidence supporting the theory of Pangaea.

*What led Alfred Wegener to the idea that Earth's continents move?*

At the start of the 1900s, German **meteorologist** Alfred Wegener was fascinated by a recently discovered scientific mystery. The fossilized remains of certain plants and animals had been found on more than a single continent. For example, fossils of an extinct, freshwater reptile were discovered by archaeologists in both South America and southern Africa.

Prehistoric reptiles couldn't swim across oceans, and the exact same plant doesn't evolve in two places at once. Why were fossils of the same **organisms** appearing on continents separated by miles of ocean?

Most scientists in Wegener's day thought that the animals had crossed the oceans on **land bridges**. At certain times in Earth's history, they argued, undersea ridges became exposed when sea levels fell. The animals simply walked from one landmass to the other. Wegener wasn't so sure.

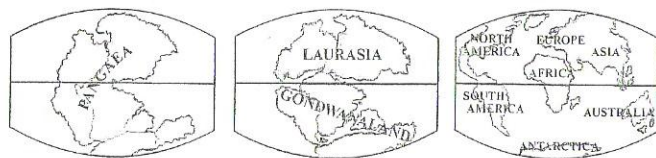
Wegener noticed that Earth's continents looked like puzzle pieces. The eastern edge of South America would fit snugly against the western edge of Africa if the continents could be put together. When Wegener did this with maps, he was amazed to see that their landscapes matched up. For example, a mountain range in South America linked perfectly to one in southern Africa. Wegener knew he was onto something.

In 1915, Wegener published his book *The Origin of Continents and Oceans*. His hypothesis stated that Earth's continents move around the planet, an idea he called **continental drift**. At one time, all the landmasses were joined together as a single supercontinent that he named *Pangaea*.

Plants and animals moved freely across Pangaea. When the supercontinent broke apart, the fossilized remains ended up on the separated continents as we know them today. Wegener argued that his idea was a much simpler solution to the fossil mystery than disappearing land bridges.

Scientists immediately ridiculed Wegener's idea. How did something as massive as an entire continent move? Wegener didn't have the answer, but he was convinced he was correct. For nearly 40 years, other scientists mostly ignored his hypothesis.

During the 1950s and 1960s, scientific equipment led to the theory of **plate tectonics**. Suddenly, Wegener's ideas weren't far-fetched at all. Today, the theory of Pangaea is widely accepted as a fact. Alfred Wegener is recognized as one of history's greatest scientists.



Chapter 1 Lesson 6

Circle the letter of the best answer to each question below.

- Which type of scientific research was most helpful to Wegener in forming his hypothesis?
  - experimenting
  - observing
  - collecting
  - All of the above
- The supercontinent Pangaea
  - is widely accepted by scientists as being part of Earth's history.
  - is expected to reappear in about one million years.
  - has replaced the theory of plate tectonics.
  - was an idea that has been disproved by the theory of continental drift.

Write your answers on the lines below.

- Explain why Wegener's ideas were suddenly accepted during the 1950s and 1960s.

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- Review the selection. Then, briefly explain why the theory of Pangaea answers the question of how the same fossils could appear on different continents.

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- Was Wegener a good scientist? Explain your answer.

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**What's Next?**

Land bridges weren't the answer to the fossil mystery that Wegener solved, but they have existed in different places and at different times in Earth's long history. The Bering land bridge is probably the best-known link that ever arose between two continents. Why was it such an important part of early human history?