Name: Group: Date:

Alfred Wegener's Big Idea:
What Was His Evidence for Continental Drift?

Alfred Wegener introduced the hypothesis (idea) of continental drift in the early 1900s. He suggested that a supercontinent named Pangaea, meaning "all land," had existed millions of years ago. Pangaea, he said, had broken up into pieces that slowly drifted apart to become the continents we know today.

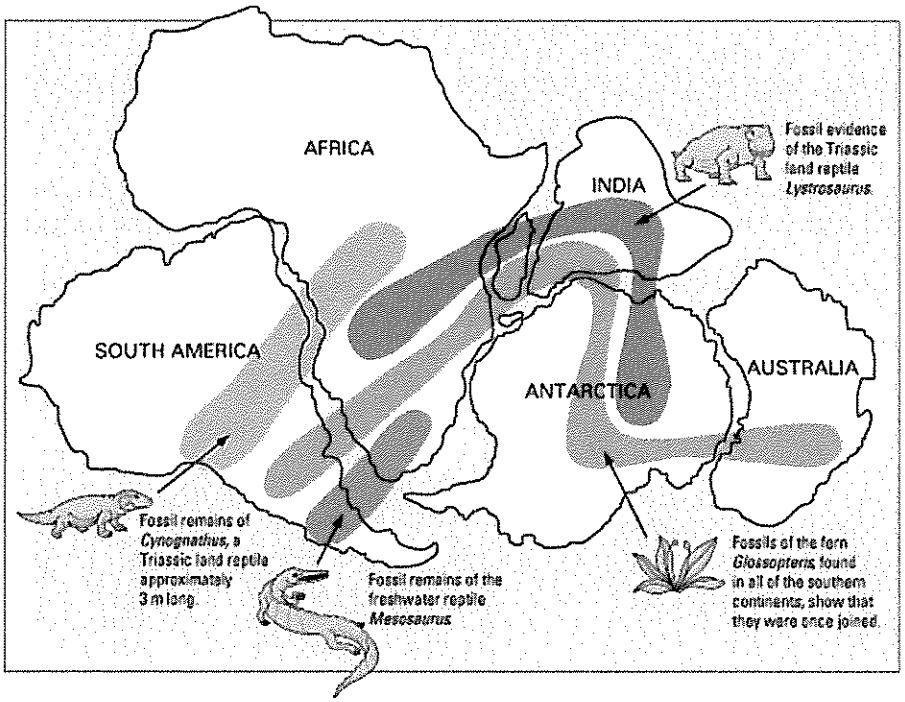
What Evidence Did Wegener Use to Support His Hypothesis?

The continents fit together:

Wegener noticed that the shorelines of the continents are similar. This is especially true of Africa and South America. He began trying to fit all the continents together the way you would put pieces of a puzzle together. He came up with a single supercontinent that contained all of today's continents and named it Pangaea.

The same fossils are found on different continents:

Fossils of a small, lizard-like reptile called Mesosaurus are found on both Africa and South America. Mesosaurus could not possibly have swum across the Atlantic Ocean, however! Wegener reasoned that there was only one explanation. The two continents must have been joined together Mesosaurus lived.



Fossils of a tree called Glossopteris followed a similar pattern. Glossopteris fossils are found on a number of today's continents. There is no way a tree could have crossed today's large oceans! Two other animals, Lystrosaurus and Cynognathus, have also been found on multiple continents. You can see a map on the previous page that shows how Wegener used these fossils to line up the continents. When Wegener lined up the fossils, he reconstructed Pangaea!

Similar mountains and rocks are found on different continents:

Wegener also found that mountain ranges of the same age lined up across continents. The Appalachian Mountains that end in Canada match up with mountains in Europe that are the same age and rock type.

Glaciers once covered areas that are now near the equator:

Glaciers are large, moving sheets of ice that we usually find only near the poles or in high mountains. So how could there be scratches on rocks that were made by glaciers in places that are hot now? Again, when Wegener put the continents together, it all made sense. The areas with glacier scratches were near the poles on the old supercontinent of Pangaea.

Wegener's Hypothesis Was Rejected During His Time.

Despite all that evidence, Wegener's big idea of Pangaea was not accepted until many years after he died. He simply wasn't able to explain how the continents, which seem so solid to us, could move! We now know that the continents move because new crust is created in some places, and destroyed in others. This moves pieces of the crust along very slowly.

What to do:

There are seven paragraphs in this reading. On a separate piece of paper, write a one-sentence summary of each of the seven paragraphs.