

## Plate Tectonics

# Continental Drift

### Study Tip

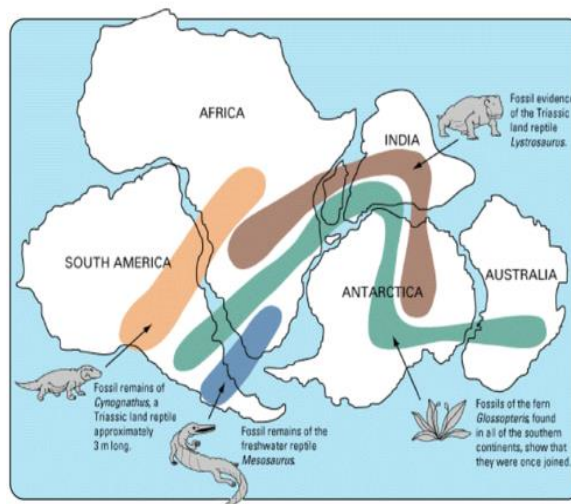
Keep in mind that the Continental Drift Theory states that the movement of the Earth's continents relative to each other by appearing to drift across the ocean bed.

## Wegener's Idea

- Alfred Wegener was a meteorologist and explorer born in 1880.
- In 1911 he found cases of identical fossils of plants and animals on opposite sides of oceans.
- The explanation produced at the time was that land bridges had once stretched between these continents.
- He supported the idea that South America and Africa had once been joined, and he found evidence to support this hypothesis.

## Wegener's Evidence

- Continents seemed to fit together. For example, the west coast of Africa seemed to align with the east coast of South America.
- Ancient fossils of the same species found in rocks of same age on separate continent. It was impossible for the ancient animals to travel across oceans due to physical limitations such as weight and lack of ability to swim.
- Identical rock types and ages found on both sides of the Atlantic ocean
- Mountain ranges with identical rock type, age, and structure found on opposite sides of the Atlantic Ocean.
- Grooves and rock deposits left by ancient glaciers are found today on different continents very close to the equator. Glaciers were originally massed together in the South Pole but dispersed as continents moved.



*Wegener discovered that the fossils of the same creatures are found in many different continents, suggesting that continents moved apart over time.*

- Coral reefs and coal-forming swamps are found in tropical and subtropical environments, but ancient coal seams and coral reefs are found in locations where it is much too cold today. So ancient creatures were in warm climate zones and their remains spread to different locations over time
- Mountains formed as continents ran into each other, which disproved the hypothesis that Earth was a molten ball and bulged up in spots because not all mountains were the same age.

## Concept Check

- Who was Alfred Wegener?
- What evidence did he find to support the Continental Drift Theory?
- What does the separation of identical mountain ranges indicate?

## Concept Check

- What are electromagnetic waves?
- How are electromagnetic waves classified?
- What is the unit that measure the amount of light reflected off a surface?

## Supplemental Learning

- How are electromagnetic waves classified?