

# Inside Earth: Chapter 1- Plate Tectonics



## Section 3: Drifting Continents

# Guide For Reading

- What is continental drift?
- Why was Alfred Wegener's theory rejected?

# The Theory of Continental Drift

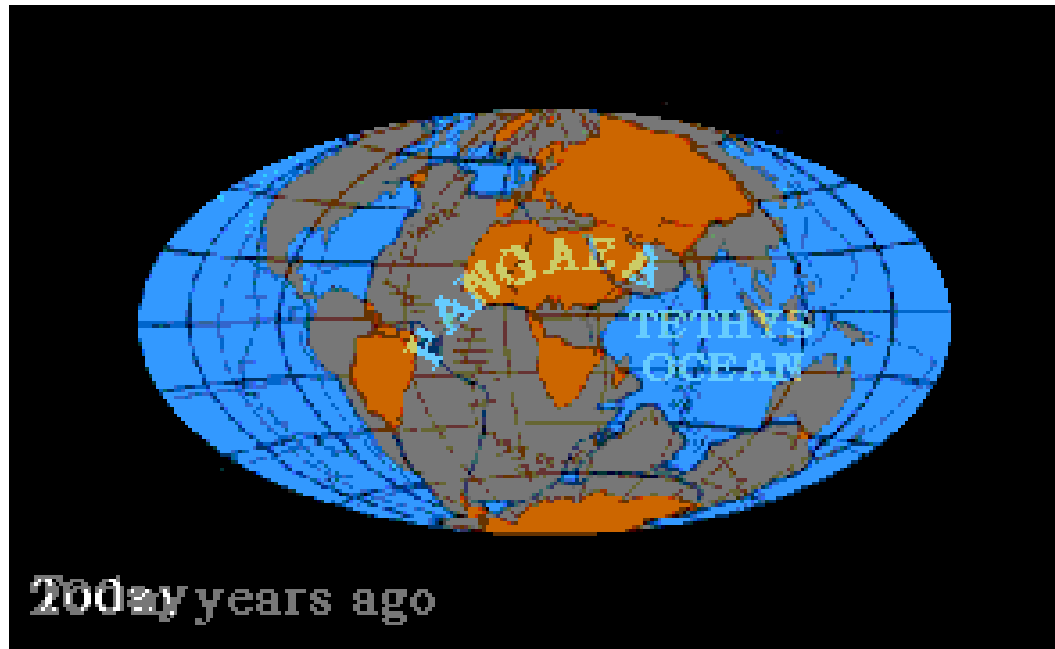
# Pangaea

- The name of the single landmass that broke apart 200 million years ago and gave the rise to today's continents



# Continental Drift

- A hypothesis that the continents slowly move across Earth's surface



# Guide For Reading: What is Wegener's theory of continental drift?

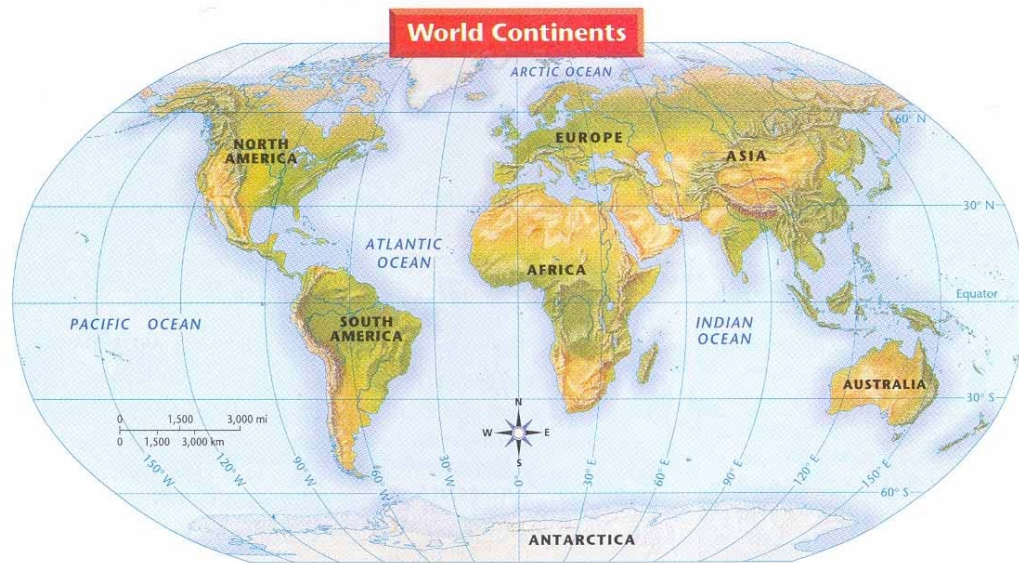
- Continental drift is the hypothesis that all the continents had once been joined together in a single landmass
- The continents have slowly moved apart over Earth's surface

# Evidence From Landforms

# Evidence From Landforms

- A mountain range in South Africa lines up identical with mountain ranges in Argentina (South America)
- Brazilian coal fields match up identical with coal fields in South Africa

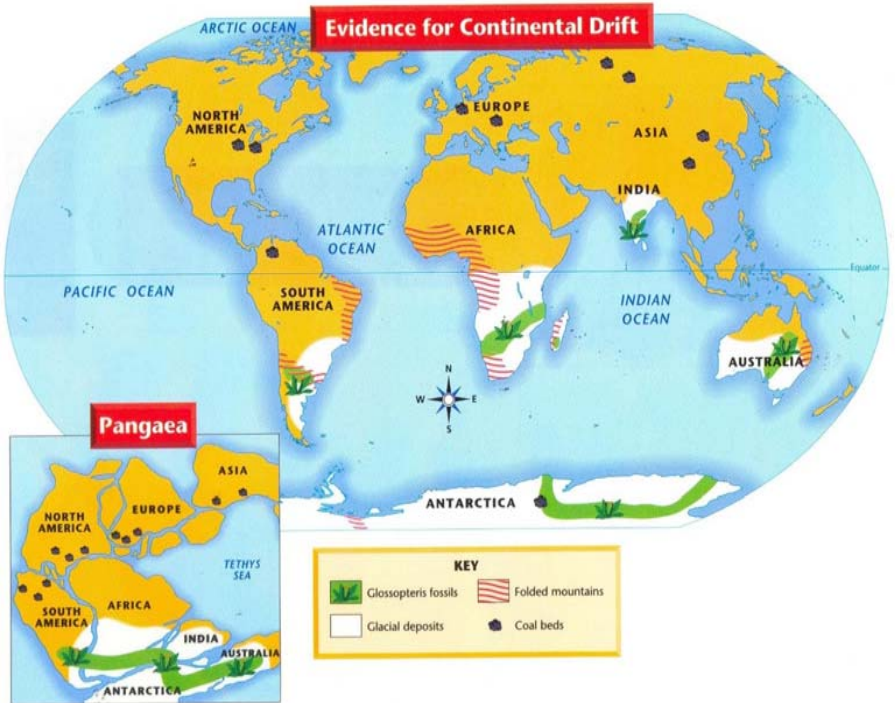
# Figure 11: **Observing**: Which coastlines seem to match up like jig-saw puzzle?



- The continents of Africa and South America best match up like jigsaw-puzzle pieces

Figure 12: **Inferring**: According to Wegener's theory, what does the presence of similar mountain ranges in Africa and South America indicate?

## 2 Evidence for Continental Drift



- The presence of similar mountain ranges indicates that Africa and South America were once joined.

# Evidence From Fossils

# Fossil

- Fossil: A trace of an organism that has been preserved in rock

# How did Wegener use evidence based on fossils to support his theory that the continents had moved?

## 2 Evidence for Continental Drift



- Glossopteris fossils have been found in rocks in Africa, South America, Australia, India, and Antarctica unexpectedly
- Seeds could not have travel that far over the oceans to reach other continents

# Evidence From Climate

What two examples of climate change did Wegener use to support his theory of continental drift?

- The Island of Spitsbergen (Arctic Ocean) has evidence of tropical plants
- Deep scratches in rocks were found in South Africa
  - These scratches support evidence of glaciers

**Checkpoint:** What were the three types of evidence Wegner used to support his theory of continental drift?

- Landforms
- Fossils
- Climate

Scientists Reject  
Wegener's Theory

# Guide For Reading: Why was Alfred Wegener's theory rejected?

- Wegener could not provide a satisfactory explanation for the force that pushes or pulls the continents
  - He could not identify the cause of continental drift
  - Geologists needed more evidence of how the continents and mountains were formed