Chapter 1: Plate Tectonics

Section 3: Drifting Continents

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| Essential Questions: |  |
| What is continental drift? | Continental drift is the hypothesis that all the continents had once been joined together as a single landmass and slowly drifted to their current locations. |
| Why was Alfred Wegener’s theory rejected by most scientists of his day? | Unfortunately, Wegener could not provide a satisfactory explanation for the force that pushes or pulls the continents so most geologists rejected his idea. |
| Key terms |  |
| Continental drift | The hypothesis that all the continents had once been joined together in a single landmass. Wegener’s idea that the continents slowly moved over Earth’s surface became known as continental drift. |
| Pangea | This single landmass was named by Wegener as Pangaea which means all lands. It existed about 300,000 million years ago. |
| Evidence from Landforms | Wegener used evidence from mountain ranges and other features on the continents to support the theory of continental drift. He pieced together maps of Africa and South America and found that mountain ranges line up. Brazilian Coal fields line up with coal fields in South Africa. |
| Fossil | Any trace of an ancient organism that has been preserved in rock. |
| Evidence from Fossils | Glossopteris was a fernlike plant that flourished 250 million years ago. These fossils have been found in Africa, South America, Australia, India, and Antarctica. The seed-like structures of Glossopteris could not have travelled the great distances that separate the continents today. Wegener inferred that the continents at that time were united as one supercontinent. |
| Evidence from Climate | Wegener used evidence of climate change to support his theory.Spitsbergen lies in the arctic ocean north of Norway and is ice covered with a harsh polar climate. Fossils of tropical plants that lived 300 million years ago have been found on Spitsbergen. This island must have had a warmer climate 300 million years go. According to Wegener, Spitsbergen must have been located closer to the equator. |