

Wegner's Hypothesis:

In 1912, a German scientist named _____ proposed a hypothesis that is now called _____.

All of the continents joined together was called a _____.

This massive continent broke up during the _____ era.

Early travelers noticed the continents of _____ and _____ fit together like puzzle pieces.

Fossil Evidence:

He reasoned that if the continents had once been joined, fossils of the same _____ and _____ should be found in areas that had once been connected.

Wegener knew that identical fossils of _____, a small, extinct land reptile, had been found in both South America and western Africa.

Wegener knew that it was unlikely these reptiles had swum across the Atlantic Ocean. He also saw no evidence that _____ had once connected the continents.

Evidence from Rock Formations:

The _____ and _____ in the coastal regions of widely separated areas, such as western Africa and eastern South America, matched closely.

The _____, for example, extend northward along the eastern coast of North America, and mountains of

similar age and structure are found in Greenland, Scotland, and northern Europe.

Climate Evidence:

Geologists discovered layers of debris from _____ in southern Africa and South America.

Today, those areas have _____ that are too warm for glaciers to form.

Other fossil evidence such as plant fossils indicated that _____ covered areas that now have much colder climates.

Mid Ocean Ridges:

_____ are undersea mountain ranges through the center of which run steep, narrow valleys.

First, they noticed that the sediment that covers the sea floor is _____ closer to a ridge than it is farther from the ridge.

Second, scientists learned that the ocean floor is very young. While rocks on land are as much as _____, none of the oceanic rocks are more than _____.

_____ also showed evidence that sea-floor rocks closer to a mid- ocean ridge are younger than sea-floor rocks farther from a ridge.

Sea Floor Spreading:

In the late 1950s, a geologist named _____ suggested a new hypothesis.

He proposed that the valley at the center of the ridge was a crack, or _____, in Earth's crust.

At this rift, molten rock, or *magma*, from deep inside Earth rises to fill the crack. As the ocean floor moves away from the ridge, rising magma cools and solidifies to form new rock that replaces the ocean floor.

Hess thought that _____ was the mechanism that Wegener had failed to find.

Evidence would be discovered through _____ the study of the magnetic properties of rocks.

Magnetic Reversal

Geologic evidence shows that Earth's magnetic field has not always pointed _____, as it does now.