**History of Plate Tectonics**

Please put the following events in order:

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| The scientific community did not agree with Continental Drift because it did not explain how or why the continents moved. | Harry Hess used seafloor data that to develop the hypothesis of seafloor spreading, which supported the theory of plate tectonics. |
| Scientists discovered hydrothermal vents along oceanic ridges, confirming a prediction of plate tectonics.  | To explain observations, Alfred Wegener proposed the model of Continental Drift, in which the continents plowed through the ocean floor over time. |
| Naturalists such as Sir Francis Bacon and Alexander Von Humbolt observed that the shapes of South America and Africa fit together. | Vine, Matthews, and Morley used seafloor magnetism data to demonstrate that the age of the seafloor increased symmetrically along both sides of mid-ocean ridges, supporting the seafloor spreading hypothesis. |
| Scientists such as Maurice Ewing studied the ocean floors and found thin sediments, a global network of ocean ridges at their centers, earthquakes, and data suggesting the ocean floor was relatively young geologically. | Scientists such as Eduard Suess observed patterns in the locations of some fossils crossing separate continents. |
| Arthur Holmes proposed that radioactive heat inside the Earth would cause convection in Earth’s mantle, but not a location for the upwelling material. | Tuzo Wilson added the concept of transform faults to help complete today’s theory of plate tectonics. |

**Answers:**

1. Naturalists such as Sir Francis Bacon and Alexander Von Humbolt observed that the shapes of South America and Africa fit together.
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6. Scientists such as Maurice Ewing studied the ocean floors and found thin sediments, a global network of ocean ridges at their centers, earthquakes, and data suggesting the ocean floor was relatively young geologically.
7. Harry Hess used seafloor data that to develop the hypothesis of seafloor spreading, which supported the theory of plate tectonics.
8. Vine, Matthews, and Morley used seafloor magnetism data to demonstrate that the age of the seafloor increased symmetrically along both sides of mid-ocean ridges, supporting the seafloor spreading hypothesis.
9. Tuzo Wilson added the concept of transform faults to help complete today’s theory of plate tectonics.
10. Scientists discovered hydrothermal vents along oceanic ridges, confirming a prediction of plate tectonics.

**Answer Details:**

* Naturalists began to observe the shape of the continents similarities as early as 1596.
* In 1620, Sir Francis Bacon observed similarities of coasts of Africa and South America.
* In 1799, Alexander Von Humbolt, German explorer and naturalist, observed the similarities in the geology and features of the west coast of Africa and east coast of South America.
* 1858, Eduard Seuss pointed out that fossils of the Glossopteris plant are found in southern Africa, South America, and India.
* In 1912, Alfred Wegener described Continental Drift.
* From 1912 through the 1950’s, the scientific community did not accept this model.
* In 1929, Arthur Holmes suggested that thermal convection in Earth’s mantle could cause continents to move.
* From 1947-1959, Maurice Ewing led a team of scientists to map the seafloor and found the mid-Atlantic Ridge, a young seafloor, and more.
* In 1962, Harry Hess described the model of seafloor spreading.
* In 1963, Lawrence Morley, Fred Vine, and Drummond Matthews linked the patterns of symmetrical magnetic stripes on either side of mid-ocean ridges to seafloor spreading.
* In 1965, Tuzo Wilson added the concept of transform faults to plate tectonics.
* In 1977, Scientists discovered hydrothermal vents along the Galapagos Rift.