

Earth Science Chapter 5: Plate Tectonics Lab

Read the below pre-lab. This will give you a little background history on plate tectonics. Make sure to bring in your colored pencils or crayons for our lab on Thurs Oct 16, 2008. We will be having the lab in our classroom.

Tektonicos comes from the Greek, meaning “building” or construction. Tectonism explains what shaped the earth’s crust!

The basic idea behind plate tectonics is the rigid lithosphere of the earth is divided into large sections, or plates, that are in constant motion and are carrying the continents with them. There are three types of plates: oceanic, continental and plates that carry both. Plate boundaries are where those three types of plates meet one another. When those plates meet each other, a series of side effects can occur including mountain building, earthquakes, volcanoes, and a whole lot more!

How about a brief history? The theory of plate tectonics is not new, but amazingly it was not until the 1950’s that geologists got serious about it and finally began accepting it. But, let’s back up a bit:

Antonio Snider-Pelligrini (1858) – This Frenchman was the first to study the idea in his book “Creation and Its Mysteries Revealed.” He showed what the continents looked like before Noah’s flood separated them, and incredibly, fitted together South America and Africa. However, his findings contain little to no scientific evidence and his work was soon forgotten.

Frank B. Taylor (1908) – This American pointed out many scientific facts that could be explained by “drifting continents.”

Alfred Wegener (1915) – This German meteorologist, in his book, “The Origin of the Continents and Oceans,” was the first to seriously do a scientific study of continental drift. His research was not so much dependent on the shape of the continents as it was on the evidence from land features, climate and fossil finds.

Harry Hess (1960) – This American geologist was one of the scientists who studied mid-ocean ridges. He proposed sea-floor spreading as the process that produces new ocean floor. He used sonar during World War II to observe the bottom of the ocean floor.

J. Tuzo Wilson (1965) – This Canadian scientist observed that there were cracks in the lithosphere, which he called plates. He noticed that those plates fit together and combining that information with the concept of sea-floor spreading, Wilson proposed the theory of plate tectonics.