

Essay on Plate Tectonics

OKD/Physical Sciences/Earth Science/Planet/Plate Tectonics/plate tectonics

Continental plates move, when olivine from upper mantle comes through rift in crust basalt, pushing plates apart. See Figure 1.

Plates can slide into each other, pushing one down and one up to make trenches and mountains. See Figure 2.

rates

Pushed plates move two centimeters per year. Sea-floor movement in Chile is 15 centimeters per year.

results

Upwelling at ocean ridges can make volcanoes with basalt lavas. Old rift valleys can fill with aulacogens.

evidence

Coal is in Antarctica. Similar fossils are on separated continents. All over world, iron in volcanic rocks aligns in many different directions, instead of only north and south. East South America and west Africa have similar coastlines.

Sea floor is spreading away from Mid-Atlantic Ocean Ridge. Basalt at Mid-Atlantic Ocean Ridge is younger than basalt near continents. Mid-Atlantic-Ocean Ridge basalt shows alternating iron-particle orientations every 700,000 years, when Earth magnetic field reversed. Sediment at Mid-Atlantic Ocean Ridge is less than at continent edges.

Pacific-Ocean floor has thicker sediments and is older than Atlantic-Ocean floor. Atlantic-Ocean floor is 200,000,000 years old. Atlantic-Ocean sediment averages only several thousand feet thick and in some places is much thinner. If ocean floor had not changed for 200,000,000 years, sediment would be several miles thick.

Figure 1

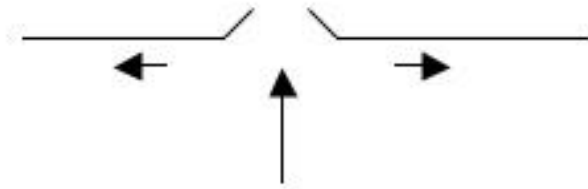
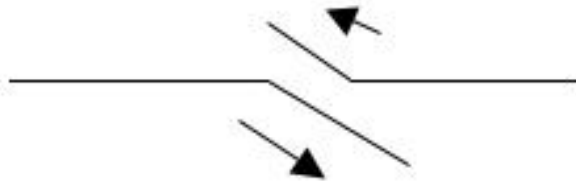


Figure 2



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