

CLAIM

EVIDENCE

REASONING

100,000,000 years into the future, the surface of the Earth will change quite a lot. Some of the changes will include expansions and depletions of oceans. Mountains will also form in addition to continents gaining and losing crust. All of these changes will take place because of the three different boundaries. The three boundaries are convergent, divergent, and transform. Even though it may not seem that these boundaries will do much, they change the surface of the earth significantly.

Convergent boundaries contribute to many of the changes that occur. At convergent boundaries, plates converge or collide. Plates can also subduct under each other. Convergent boundaries take place because of convection currents. Convection currents are caused by the heating and cooling of the magma inside of the Earth's mantle. At convergent boundaries, convection currents are moving towards each other. This will cause the movement of the plates that are up above on the Earth's crust. This is how mountains, volcanic mountains, and ocean trenches formed. When these changes happen, they cause earthquakes. As seen on the map, mountains are formed when the Indian, Arabian, and African plates converge with the Eurasian plate making the Himalaya mountains larger. Mountains also form when the North American plate converged with the Eurasian plate, and when the South American plate converged with the North American plate. Also shown on the map, volcanic mountains form when the Pacific and the North American plate converged, when the Pacific plate and the Eurasian plate converge, and when the Nazca plate and the South American plate converge. An ocean trench forms when the Pacific plate and Australian plate converge. Mountains form when continental crust converge with continental crust. This is because neither of the plates are denser than the other, so instead of subduction happening, the plates will collide and the crust will pile up on Earth's surface making a mountain. Volcanic mountains form when oceanic crust subducts under continental crust and there is resistance so cracks form, and magma seeps through those cracks. The ocean trench is the subduction zone, the place where the less denser plate subducts under the denser plate.

Divergent boundaries also contributed to the changes of Earth's surface. At divergent boundaries, convection currents are moving away from each other, so plates are moving away from each other, and magma is filling in the places that no longer have crust, during this process earthquakes happen. As seen on the map, the seafloor is spreading at the mid ocean ridge at the North American plate and the Eurasian plates. The seafloor is also spreading at the South

American and African plates, since these plates run along the mid ocean ridge. Also seen on the map, the seafloor is spreading, while the Antarctic plate is diverging with the Australian, Pacific, Nazca, South American, and African plates. Also shown on the map, a rift valley forms when the African plate diverged away from the Arabian and Indian plates. Rift valleys are places that the plates move apart. It is the place in which new crust is starting to form.

There may only be few, but transform boundaries change ocean and continental landscapes. The crust doesn't gain or lose at transform boundaries, because plates slide past each other. Sometimes there are faults at transform boundaries, therefore causing an earthquake. Shown on the map there is a transform boundary at the San Andreas Fault. The Pacific plate and the North American plate are sliding past each other. This is because at transform boundaries, convection currents are moving past each other so the plates above will also move past each other.

100,000,000 years into the future Earth's surface will change quite a lot. Oceans will grow and will deplete, so will continents. Mountains, and volcanic mountains will form. All of these changes are due to convergent boundaries, divergent boundaries, and transform boundaries. Convection currents are the causes for all of these changes. 100,000,000 years from now our world will change a lot.