**Continent-Continent Convergent Plate Boundaries**

- Describe the activity and features of convergent plate boundaries where two continental plates come together.

What do you see at a continent-continent convergent plate boundary?

Nowhere along the west coast of North America is there a convergent plate boundary of this type at this time. Why are there no continent-continent convergent boundaries in western North America? The best place to see two continental plates converging is in the Himalaya Mountains, the mountains that are the highest above sea level on Earth.

** Continent-Continent Convergence **

Continental plates are too buoyant to subduct. What happens to continental material when it collides? It has nowhere to go but up!

Continent-continent convergence creates some of the world’s largest mountains ranges. Magma cannot penetrate this thick crust, so there are no volcanoes, although the magma stays in the crust. Metamorphic rocks are common because of the stress the continental crust experiences. With enormous slabs of crust smashing together, continent-continent collisions bring on numerous and large earthquakes.


The Appalachian Mountains along the eastern United States are the remnants of a large mountain range that was created when North America rammed into Eurasia about 250 million years ago. This was part of the formation of Pangaea.
Summary

• Continental crust is too buoyant to subduct. If the two plates that meet at a convergent plate boundary both consist of continental crust, they will smash together and push upwards to create mountains.
• Large slabs of lithosphere smashing together create large earthquakes.
• The activity at continent-continent convergences does not take place in the mantle, so there is no melting and therefore no volcanism.
• The amazing Himalaya Mountains are the result of this type of convergent plate boundary.
• Old mountain ranges, such as the Appalachian Mountains, resulted from ancient convergence when Pangaea came together.

Explore More

Use the resources below to answer the questions that follow.

• **Continent-Continent Convergence** at
http://www.nature.nps.gov/geology/usgsnps/pltec/converge.html

1. What happens when two continental plates converge?
2. What is the result of this convergence?

• **The Himalaya Mountains** at
http://pubs.usgs.gov/gip/dynamic/himalaya.html
3. Where are the Himalaya Mountains?
4. When were the Himalayas formed?
5. When did India ram into Asia?
6. How fast are the Himalayas rising?

Review

1. Compare and contrast the features of a continent-continent convergent plate boundary with the features of an ocean-continent convergent plate boundary.
2. What causes mountain ranges to rise in this type of plate boundary?
3. Why are there earthquakes but not volcanoes in this type of plate boundary?

References