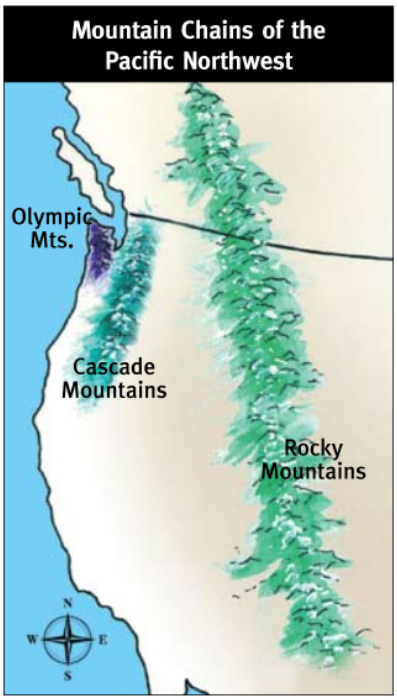
Mountain Formations

Mountain ranges were uplifted, tilted, and folded in various ways. You can see the folded and tilted layers of rock as you explore mountain canyons. The uplifting is partly the result of the tectonic forces. ***Tectonic*** refers to the forces within the earth that cause movements of its crust. These forces pushed huge ridges of land against each other. Where the two landmasses met, land ridges were forced upward.

After the mountains were formed, erosion by moving wind, water, and ice started immediately. That is why older mountains are more rounded, and younger mountains are more jagged.

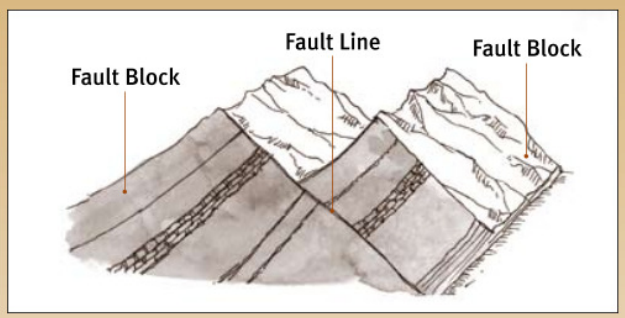
The Rocky Mountains are the oldest mountains in the West. Both the Cascades and the Olympic Mountains are much younger. The Olympic Mountains at one time were islands peeking out of the ocean.

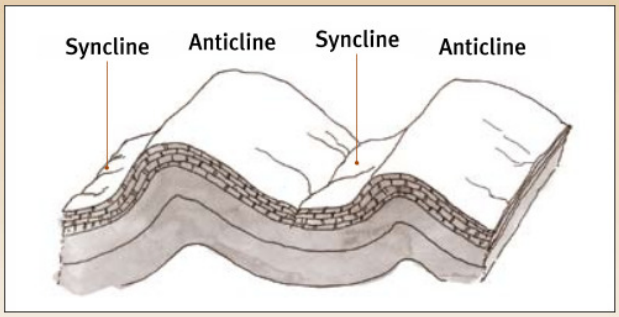


Earthquakes!

Tectonic forces left ***fault*** lines—fractures in the earth's crust—in the Puget Sound region and off the Pacific Coast. A shift in one of the landmasses causes earthquakes every few years.

About a thousand years ago, there was a major earthquake where Seattle is now. More recent large shakes occurred in 1949, 1965, and 2001. The potential for a "big one" is always there.





A syncline is formed when rock layers come together at their lowest point and push upward. Synclines can be as small as the side of a cliff or as large as an entire valley. An anticline is formed when rock layers push downward from a common crest. Anticlines can be as small as a hill or as large as a mountain range.

200 mya 100 mya Present

Mesozoic Era (240–65) MYA
- Sedimentary rock is formed.
- The Rocky Mountains begin to take shape.
- The Okanogan Micro-Continent joins North America.

Cenozoic Era (65 MYA to present)
- The North Cascades Micro-Continent docks against the mainland.
- Volcanic activity forms the Cascade Range.
- Lava flow forms the Columbian Plateau.
- Ice Age glaciers blanket northern Washington.
- Glaciers carve valleys. Melting ice forms lakes.
- The Pacific Coast changes as ice melts.
- Grand Coulee and Dry Falls were eroded by floods.
- Olympic Mountains are formed.
- Humans hunt mammoths in the Pacific Northwest.