**Teaching About Mountain Building in a Plate Tectonics Context**

**Using “Claim – Evidence – Reasoning” to Promote Inquiry and Student Learning**

Question: Where are mountain ranges found in relation to plate boundaries?

This claim can be made from the videos and text used in this activity.

Claim: Mountain ranges tend to be found along active plate margins.

* High topography occurs along plate boundaries
* Most continental margins not associated with plate boundaries have subdued topography
* Convergent plate boundaries often are associated with large ranges
* Mid-ocean ridges stand high above oceanic plates along divergent plate boundaries

Question: How does the topography of mountain ranges depend on continental collision?

This claim can be made from analyses conducted during this activity.

Claim: The volume of rock in mountain ranges varies with duration and rates of collision.

* Some of the highest topography is found where continents collide along convergent boundaries (Himalaya, Taiwan, Paupa New Guinea)
* The volume of rock mass in mountain ranges varies with the age of collision (Appalachians versus Alps)

Question: How does erosion influence the topography in active mountain ranges?

This claim can be made from the videos and text presented in this activity

Claim: Erosion removes mass from the surface, but isostasy maintains topography long after collision ceases.

* Topography exists in ancient mountain ranges (Urals, Appalachians)
* Rocks in ancient mountain ranges were once deeply buried within the earth