**Rotation – Discussion Questions**

The plate boundary between the Pacific and North American plates, the San Andreas fault, runs right through coastal California and causes many scary earthquakes. Can you think of any advantages we derive from living near the plate boundary?

What direction is the Pacific plate moving past the North American plate? If you were a crustal piece caught between these two plates, which direction would you be rotated: clockwise or counterclockwise?

The unusual east-west configuration of the Transverse Ranges is part of what makes living in southern California special. Can you think of some ways this configuration affects our climate and our oceanic conditions (including water temperature and biological richness)?

Most oceanic islands (e.g., Hawaii, Tahiti, Galapagos, and Easter Islands) are the tops of volcanoes that erupted and were built up from the deep ocean floor. How are the Channel Islands different from those islands?

When humans first arrived on the islands, they found them populated with pygmy mammoths. How do you think the mammoths got out to the islands? How do you think the people got there?

Some animal species living on the Channel Islands are small versions of larger species found on the mainland (e.g., foxes, skunks, the ancient pygmy mammoths). What special conditions on isolated islands would encourage the evolution of new species that are smaller than their ancestors.

Torrey Pines are presently found growing on the mainland near San Diego and on east Santa Rosa island, but nowhere else. How do you suppose these trees managed to spread from the mainland to the island?