

## Final Examination Study Guide

The final examination in this class will consist of 100 multiple-choice questions. You will need a Scantron 882 test form and a no. 2 pencil. No notes or books are to be used.

The final is comprehensive. However, nearly all of the questions will deal with California in some way. In other words, there will not be a question about transform boundaries, but there would be a question about whether a transform boundary exists in California. There wouldn't be a question about the composition of granite, but there might be a question about what kind of rock is common in the Sierra Nevada.

I have also tried to ask questions that refer to the 'big picture', questions that cross the boundaries between the 11 provinces we studied. For instance, was gold found only in the Sierra Nevada? Does granite make up the bedrock of more than one province? Do earthquakes happen only on the San Andreas Fault? Where were the most devastating quakes ever to hit the state?

In your studies, be sure to refer to all the class handouts and study guides, especially the "Reasons California Geology is interesting", and the "Tectonic Development of California". Study the old quizzes, and make sure you know all the answers, especially those you missed the first time around.

Some questions to consider:

1. What kinds of plate boundaries exist today in California? Where are they?
2. What kinds of volcanoes can be found in California? What are they composed of, and which represent the greatest threat for future eruptions? Which are the tallest and largest?
3. What kinds of plate boundaries and continental margins have existed in California over the course of geologic time?
4. What important mineral and fuel resources have been mined in California? Which provinces are these minerals associated with? Especially consider gold, borates, silver, rare-earth elements, precious gemstones, limestone (for cement and concrete), mercury, chromium, petroleum, natural gas, diatomaceous earth, lithium and tungsten.
5. What are the greatest geologic hazards faced by the inhabitants of this state? Which provinces are the most dangerous, and why?
6. What kinds of faults can be found in the state?
7. Where are the oldest rocks in the state found? Where can one find the youngest rocks?
8. What is an ophiolite sequence, and where can such sequences be found in the state?
9. How are the Great Valley Group, the Franciscan Complex, the Sierra Nevada Batholith, and the Salinian Block related to one another, and how do they relate to tectonic plate boundaries?

10. What problems are associated with the use of groundwater in the state? What problems have been caused by extensive irrigation projects? What problems have cropped up from the construction of large reservoirs around the state?
11. What kinds of fossils have been found in the state? Which layers were they found in? How many dinosaurs have been found?
12. Write down the name of each of the eleven provinces, and make a list of the four most important geologic facts about each one.

Be sure to ask questions! Good luck!