This week’s lab exercise studies the movement of the plates and the formation of the plate tectonic theory, using an interactive program on the World Wide Web. To find the exercise, go to the Geology 107 website: http://www.earth.northwestern.edu/people/seth/107 Under the topic "Development of Plate Tectonic Theory” click on the link:

An interactive exercise on the development of Plate Tectonics

Go through the following 3 exercises:

Continental Drift
Plate Boundaries
Sea Floor Spreading

Each exercise comes with explicit instructions on how to complete it. For the 'Plate Boundaries’ and 'Sea Floor Spreading’ exercises, you will need to launch the QUEST mapping tool. It can be found under the Tools --> Interactive Mapping --> Launch QUEST pull down menu.

Note: You must have the following plug-ins installed in order for the exercise to work:

Macromedia Flash 5.0
Cortona VRML client

Provided here is a specific list of the questions that go along with the exercise that you need to answer. You will need to go through all steps of each exercise, even if I am not asking you to answer questions on a specific step. These answers are due on Monday, November 21, 2005 in lecture. No late work will be accepted.

Continental Drift

1. Did you have trouble making your reconstruction? Why?
1. (continued) What are some additional considerations or pieces of information that would be useful for your reconstruction to be more robust or more accurate? Make a list of both (1), issues related to the map that we are using here, and (2) additional scientific information that would be useful to have.

2. When you made your version of Pangea, did any of the continents change latitude or did you simply move them side-to-side, changing only their longitude?

If any continents did change latitude, which ones?

What implications does a change in latitude have for the fossils that you might find on these continents?

**Plate Boundaries**

3. How many earthquakes occur in a typical month on a global basis?

4. On average, how many earthquakes occur per day?

6. How many months of data are required for the plate boundaries to emerge?

**Sea Floor Spreading**

7. Where are the youngest rocks in the Atlantic Ocean?

8. Where are the oldest Atlantic rocks?

9. Consider Wegener’s reconstruction of Pangea. Do the patterns of ocean floor age and the geography of the Mid Atlantic ridge support the idea of Pangea? Explain.