Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_

Finding Plate Boundaries

How do geologists like us determine the exact shapes and sizes of Earth’s plates?
The answer to this lies in the completion and analysis of this activity. Here, you will be part of a team involved in plotting and summarizing a set of data including the earthquakes and volcanoes reported to the popular media since the 1960’s (yeah- that’s really, really old).

The materials you will need are: \* quake and volcano data set covering ~ year of time \* small world map, \* red and blue pencils or pens \* large world map

Procedure:

1. Print your **name** and **assigned dates** on your small world map.
2. On your small world map, **plot** as accurately as possible all of your assigned data.
3. Once you have finished, come up to the class map and add your points to it. **BLUE** dots for **QUAKES,** and **RED** dots for **VOLCANOES.**
4. Once everyone has put up their points on the class map, add all of the class’ data to your own small world map. **Plot** as accurately as possible all of the **QUAKES** for the data with a **BLUE** dot and all of the **VOLCANOES** with a **RED** dot.

**We will plot the data for the entire class on a large map, and complete the analysis when that is done!**

ANALYSIS:

1. As you look at our completed large class map, do the locations of quakes and volcanoes appear to be arranged in patterns, or scattered randomly? HOW CAN THIS BE EXPLAINED??

2 a. Are there places that have lots of QUAKES and VOLCANOES? Where are these?

b. Are there places that have just QUAKES only? Where are these??

c. Are there places that have VOLCANOES only? Where are these??

3. How can your answers to question #2 be explained?

5. Now compare our large class map to a real map of known plate boundaries. What does this tell you about how geologists determine the sizes and shapes of tectonic plates??

6. Based on the map we have constructed in class, and the map of known plate boundaries, where does most geologic activity on Earth appear to take place?

7. Are there any places where large numbers of quakes and volcanoes occur that are not on a plate boundary? Where are these places?? HOW WOULD YOU EXPLAIN THIS???



