

Mapping Earthquakes and Volcanoes

❖ Problem

Is there a pattern in the locations of earthquakes and volcanoes? Do the plate boundaries

❖ Materials

Outline world map showing longitude and latitude

5 pencils of different colors

❖ Procedure

1. Use the information in the table to mark the location of each earthquake on the world map. Use one of the colored pencils to draw a letter E inside a circle at each earthquake location.
2. Use a pencil of a second color to mark the locations of the volcanoes on the world map. Indicate each volcano with the letter V inside a circle.
3. Use a third pencil to lightly shade the areas in which earthquakes are found.
4. Use a fourth colored pencil to lightly shade the areas in which volcanoes are found.
5. Use a fifth colored pencil and the map of tectonic plates in your notes to draw in the different plates. Use the same key as in your notes.
6. Answer the analyze and conclude questions on the back of your map.

Earthquakes		Volcanoes	
Longitude	Latitude	Longitude	Latitude
120° W	40° N	150° W	60° N
110° E	5° S	70° W	35° S
77° W	4° S	120° W	45° N
88° E	23° N	61° W	15° N
121° E	14° S	105° W	20° N
34° E	7° N	75° W	0°
74° W	44° N	122° W	40° N
70° W	30° S	30° E	40° N
10° E	45° N	60° E	30° N
85° W	13° N	160° E	55° N
125° E	23° N	37° E	3° S
30° E	35° N	145° E	40° N
140° E	35° N	120° E	10° S
12° E	46° N	14° E	41° N
75° E	28° N	105° E	5° S
150° W	61° N	35° E	15° N
68° W	47° S	70° W	30° S
175° E	41° S	175° E	39° S
121° E	17° N	123° E	138° N

Name: _____

❖ **Analyze and Conclude**

1. How are earthquakes distributed on the map? Are they scattered evenly over Earth's surface? Are they concentrated in definite zones?
2. How are volcanoes distributed? Are they scattered evenly or concentrated in zones?
3. From your data, what can you infer about the relationship between earthquakes and volcanoes? Is there any relationship between plate boundaries and volcanoes and earthquakes?
4. Where on your map is there a divergent plate boundary. Name 2-3.
5. Where is there a convergent plate boundary that is forming a volcanic island arc?
6. Where is hot spot volcanism occurring?
7. **Apply** Based on the data, which area of the North American continent would have the greatest risk of earthquake damage? Of volcano damage? Why would knowing this information be important to urban planners, engineers, and builders in this area?
8. On a map of the United States, locate active volcanoes and areas of earthquake activity. Determine the approximate distance from your home to the nearest active volcano. (In boxes)

