

Mapping Volcanic Activity Around the World

Name: _____

1. What are tectonic plates?
2. How many are there? _____
3. How do tectonic plates move?
4. What patterns do you observe in the locations of earthquakes, volcanoes and mountain ranges?
5. Why do these events/geologic structures seem common in some areas of Earth and rare in others?
6. Compare the plotted positions of volcanic activity with the plate boundary locations. Describe any correlations
7. How does the theory of Plate Tectonics explain these similarities of location? Describe how the theory is strengthened by these patterns.
8. What is meant by the “Ring of Fire?” (and not from Nemo!)
9. Explain how Pangaea broke up into current day locations.
10. When did India become a part of Asia? What happened as a result of this connection?
11. Explain a hot spot. What do hot spots tell us about plate movement?
12. How has the hot spot in the Yellowstone region given clues about the movement of the North American plate?
13. Scientists have determined that plates move at different speeds. Some travel as slow as 2 cm/yr and others as fast as 15 cm/yr. Describe how hot spots could be used to determine the speed of plate movement. What information and measurements would you need to calculate the rate of movement?

Mountain Ranges:

- Andes Mts: 10° N to 57° S; 70° W to 80° E
- Rocky Mts: 44 N; 111 W
- Alps: 46 N; 7 E
- Himalayan Mts: 28 N; 87 E
- Sierra Nevada Mts: 38 N; 120 W
- Appalachian Mts: 40N; 78 W
- Cascade Mts: 47 N; 122 W
- Atlas Mts: 31 N; 8 W

http://earthquake.usgs.gov/earthquakes/eqarchives/year/mag8/magnitude8_1900_date.php

9.5	Chile	38 S; 72 W
9.2	Alaska	61 N; 148 W
9.1	Off the coast of Northern Sumatra	3 N; 96 E
9.0	Honshu, Japan	38 N; 142 E
9.0	Kamchatka	54 N; 161 E
8.8	Off the coast of Chile	36 S; 73 W
8.8	Off the coast of Ecuador	1 N; 82 W
8.7	Rat Islands, Alaska	51 N; 178 W
8.6	Northern Sumatra	2 N; 97 E
8.6	Tibet	29 N; 97 E
8.6	Off the coast of Northern Sumatra	1 N; 92 E
8.6	Andreanof Islands, Alaska	52 N; 175 W

Volcano Event Locations Chart

Volcanic Event	Degrees Longitude	Degrees Latitude
1	150 W	60 N
2	70 W	35 S
3	120 W	45 N
4	61 W	15 N
5	105 W	20 N
6	75 W	0
7	122 W	40 N
8	30 E	40 N
9	44 E	15 N
10	160 E	55 N
11	37 E	3 S
12	145 E	40 N
13	120 E	10 S
14	14 E	41 N
15	105 W	5 S
16	35 E	15 N
17	70 W	30 S
18	15 W	65 N
19	25 W	17 N
20	155 E	5 S
21	60 E	15 S
22	25 W	55 S
23	27 W	38 N
24	13 W	37 S
25	71 W	16 S
26	170	23 S
27	164 E	10 S
28	178 W	52 N
29	38 E	3 N
30	90 W	17 N

The World

