

Name _____

Looking for Patterns in Data

Purpose: To identify, describe, and analyze patterns in data collected on earthquakes and volcanoes.

Procedure:

1. Given this data:

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

2. Use a map pencil to plot the earthquake data on the world map.
3. Use a different color map pencil to plot the volcano data on the world map.

Data Analysis:

1. Observe the pattern of earthquakes and volcanoes over the surface of the Earth. Are they scattered at random or are they concentrated in certain areas? Describe your observations.
2. Explain your observations - why do the earthquakes and volcanoes occur in these areas?
3. Use the reference map to draw the major crustal plates of the Earth on your world map. Label the names of the plates.
4. Observe the pattern of earthquakes and volcanoes in relation to the crustal plates. Are they scattered all over the plates or is there a pattern? Describe your observations.
5. Draw arrows on your map showing the direction of plate movement.
6. Is there a relationship between the direction of movement and pattern of earthquakes? volcanoes? Describe and explain.

