

## Investigating the Earth's crustal plates by studying earthquakes and volcanoes.

### INTRODUCTION:

The data below represent worldwide earthquake and volcano locations given by their latitude and longitude. The goal of this investigation is to map the locations of these tectonic events to see what relationships can be deduced.

MATERIALS:                      world map  
    colored pencils (2)

### PROCEDURES:

Using a world map and two different color pencils, plot the location of each earthquake in one color and each volcano in the other color.

### DATA:

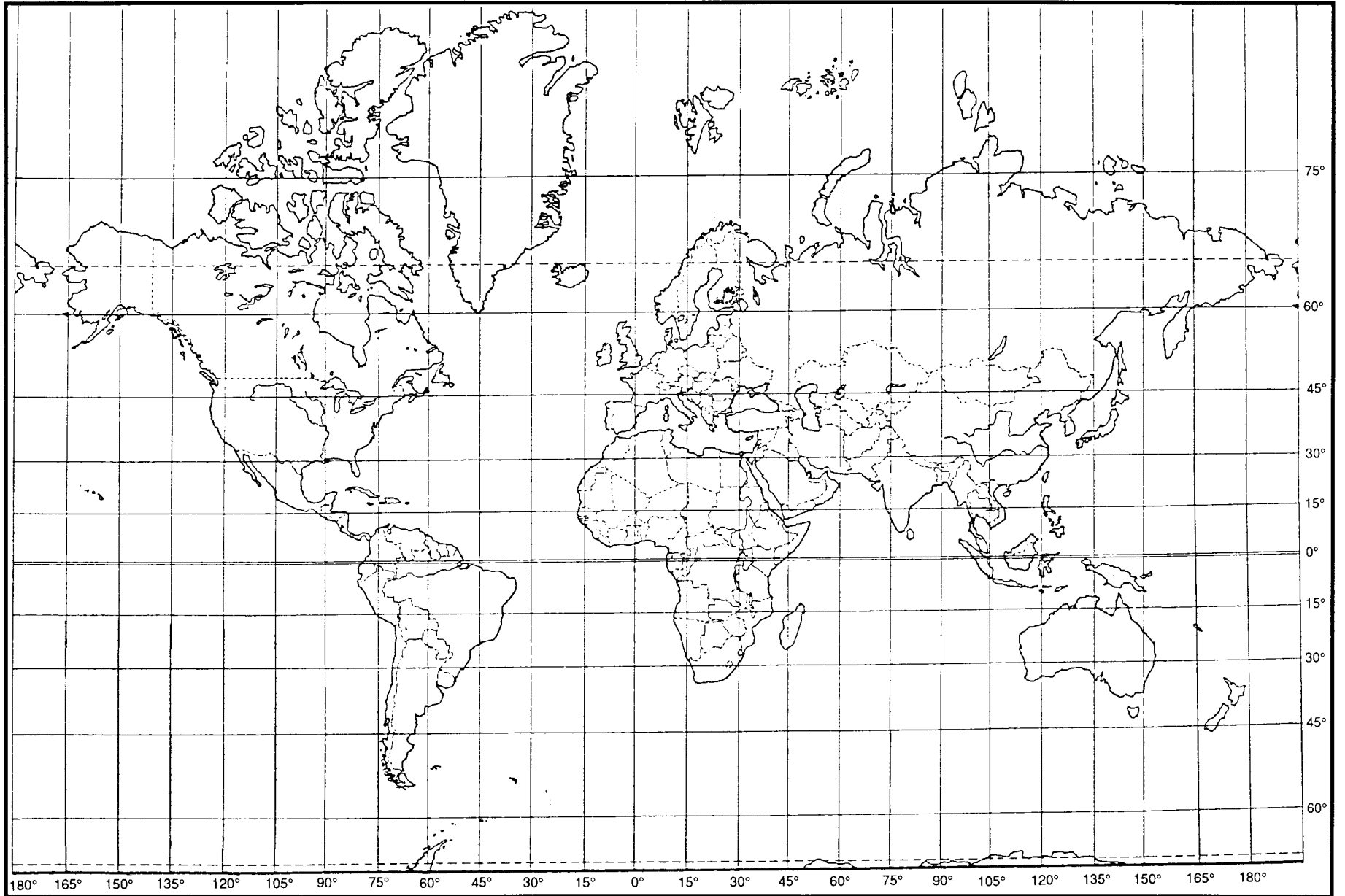
<i><b>EARTHQUAKES</b></i>		<i><b>VOLCANOES</b></i>	
°Latitude	°Longitude	°Latitude	°Longitude
40N	120W	60N	150W
5S	110E	35S	70W
4S	77W	45N	120W
23N	88E	15N	61W
14S	121E	20N	105W
7N	34E	0	75W
44N	74W	40N	122W
30S	70W	40N	30E
45N	10E	30N	60E
13N	85W	55N	160E
23N	125E	3S	37E
35N	30E	40N	145E
35N	140E	10S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

### ANALYSIS:

1. Discuss the distribution of earthquakes and volcanoes over the surface of the Earth. Are they scattered at random or are they concentrated in zones? Describe your observations.
2. Discuss the distribution earthquakes and volcanoes located in relation to the continents. Are they near the middle of continents or....? Describe.
3. Using reference books or maps, draw the major crustal plates of the Earth on your world map. Label the names of the plates neatly.
4. Discuss the distribution of earthquakes and volcanoes in relation to the crustal plates. Are they scattered all over the plates or is there a pattern? Describe.
5. Add arrows to your map showing the direction of crustal plate movement.
6. Is there a relationship between the direction of movement and distribution of earthquakes? volcanoes? both? neither? Describe and explain.

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

**MAP OF WORLD EARTHQUAKES & VOLCANOES**



TEACHER'S GUIDE:

