**Mapping the Ring of Fire:**

**Name: Date: Period:**

**Objective:** By the end of the lab period, students will be able to identify the Ring of Fire/Pacific Rim using data from earthquakes and volcanoes

**Mapping the Ring of Fire (Part 1):**

1. Using a yellow pencil on a map of the world make a prediction and shade the areas where you think the most earthquakes occur.
2. Using an orange pencil on a map of the world make a prediction and shade the areas where you think the most volcanoes occur.
3. Label each of the following in brown (use computer if necessary):
	1. North America continent
	2. South America continent
	3. Australia continent
	4. Asia continent
	5. Pacific Ocean
	6. Sea of Japan
	7. Mt Rainier
	8. Mt Fuji
4. Outline and Label the following in green:
	1. United States of America
	2. Japan
5. Use the information in the data table below to mark the location of each earthquake and volcano on the world map that follows the data table. Use a blue colored pencil to draw a circle at each earthquake location.
6. Use a purple colored pencil to mark the locations of the volcanoes on the map with a triangle.

 **Earthquakes** **Volcanoes**



**Mapping the Ring of Fire (part 2):**

1. View a map of seismic data from the Pacific Northwest.
2. After viewing the data make inferences and sketch the plate boundaries in the Pacific Northwest with a red pencil.
3. View a map of seismic data from Southeast Asia.
4. After viewing the data make inferences and sketch the plate boundaries in Southeast Asia with a red pencil.
5. View a map of seismic data from the Pacific Rim.
6. After viewing the data make inferences and sketch the plate boundaries with a red pencil.
7. After you have sketched your inferred boundaries compare your map to a map of the plates of the Pacific Rim
8. Draw in and label the following plate tectonic structures in black:
* North American Plate
* Pacific Plate
* East Pacific Rise
* Juan de Fuca Plate
* Aleutian Trench
* Philippine Plate
* Cocos Plate
* Nazca Plate
* Eurasian Plate
* Japan Trench
* Australian Plate
* Marianas Trench
* Peruvian (Atacama) Trench

**Analysis and Conclusion Questions:**

1. View a map of seismic activity of the Pacific Northwest What pattern do you see? What does this pattern mean?

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1. View a map of seismic activity of Southeast Asia. What pattern do you see? What does this pattern mean?

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1. Analyze your map. How many plates lie under the Pacific Ocean?

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1. Are all plates the same size?

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1. How many plates interact near the Washington?

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1. How many plates interact near Japan? Which ones?

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1. Explain how earthquakes can be used to infer plate boundaries.

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1. Where are the majority of volcanoes found in the Pacific Rim? (Are they found in the middle of the plates or on the edges?)

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1. Are volcanoes found everywhere earthquakes are found? Explain.

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