

EARTHQUAKE BASICS

ACTIVITY 1 - HIGH EARTHQUAKE ZONES

Directions – Use the high earthquake zone map to answer the analysis questions. **Hint - The solid lines represent the

tectonic plate boundaries. The shaded areas show the areas on Earth with a high amount of earthquakes. This is referred to as high earthquake zones. **

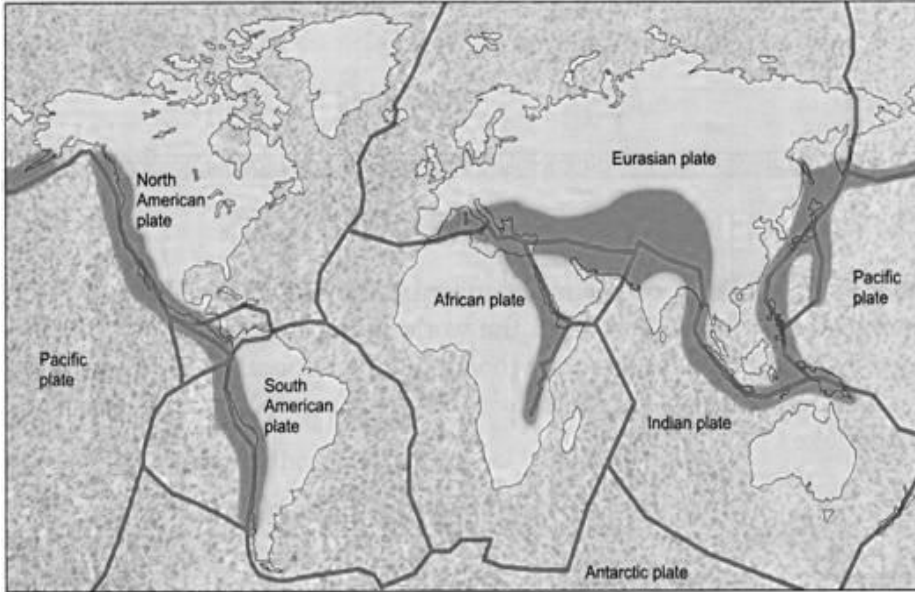


Fig. 14.3 The earthquake-prone zones (shaded) are along the boundaries of the tectonic plates.

ANALYSIS QUESTIONS

1. What pattern do you notice on this map?
2. Look at you map on worksheet page #68. Are there mountain ranges in areas where there are a lot of earthquakes?

3. What location seems to have the highest amount of earthquakes?
4. Predict why the most common earthquakes occur where they do on this map.
5. Predict what you think may be causing the areas to have a higher risk of an earthquake.

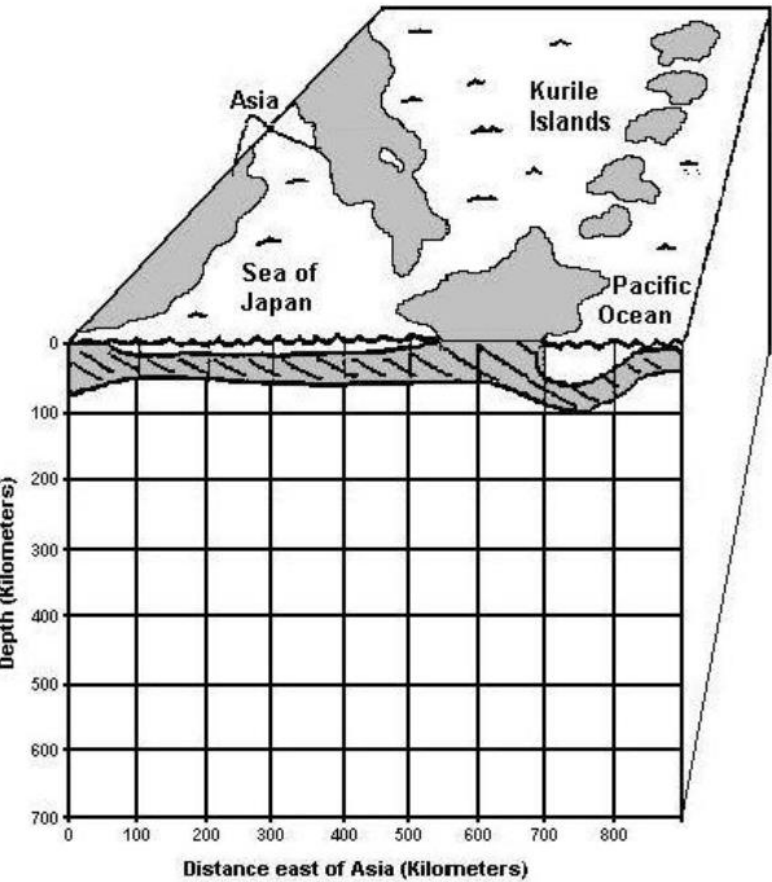
ACTIVITY 2 - THE SCIENCE OF EARTHQUAKES

Go to CANVAS and find the assignment titled “**The Science of Earthquakes**”. Complete the following questions and take the quiz (yes, it is a grade).

6. What do scientists call the broken pieces the lithosphere is broken into?
7. Explain how an earthquake is formed.
8. Explain the motion of a p-wave.
9. Explain the motion of an s-wave.
10. How can scientists tell where an earthquake has happened?
11. Take the quiz and record your score here _____. This will also be recorded in the gradebook.

ACTIVITY 3 - AN EARTHQUAKE'S FOCUS

The **focus** of an earthquake is the location where the rock breaks and releases energy inside the Earth. The data in the table below represents the locations of 20 earthquake foci (plural for focus) under Japan as measured in depth and distance east from Asia. Plot the coordinates to find the location focus for each earthquake.



DISTANCE	DEPTH
400	305
400	410
625	75
600	55
490	300
425	375
675	60
300	300
700	100
350	405
625	240
60	500
375	305
625	150
625	75
650	40
425	410
650	125
520	280
825	50

Analysis Questions

- Are all of the foci in the lithosphere? (look at page #56 in your binder to help you answer this question)
- Describe the pattern created by the foci.
- Suggest a reason for the pattern of foci. (This is an inference. Based on everything we have learned about plate tectonics so far).
- Which foci are most likely to cause damage to cities? Explain your answer.
- What must be happening in this region of Earth?