

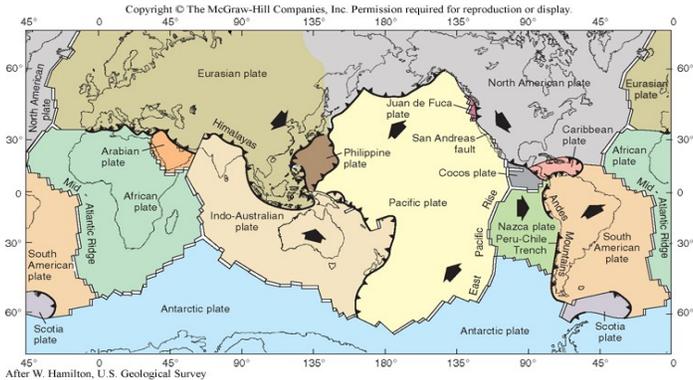
Dr. D. Weeraratne

Homework #1 (Chapters 1-8, 18, 19)

After answering the questions below and enter your final answers on **Moodle**.

1. What is the most likely geologic hazard in your part of the country? Is there more than one, if so what are they?

2. What are the three types of plate boundaries and where does each most commonly occur on the Earth?
Circle and example location of each on the map.

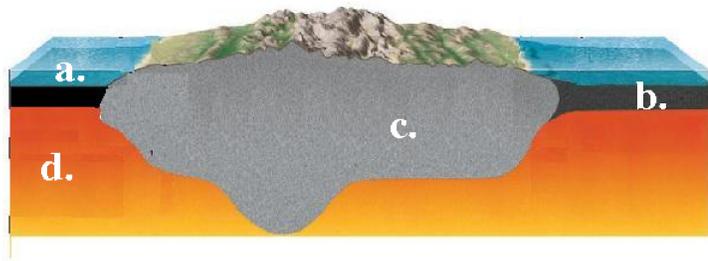


3. What type of plate boundary is closest to where you live ?
a . transform boundary b. convergent boundary c. divergent boundary d. subjective boundary

4. What tectonic plate are you currently on ?
a. Pacific plate b. North American Plate c. Juan de Fuca Plate d. Nazca Plate

5. Name three physical properties that differentiate **oceanic** crust from **continental** crust ?

6. Label the 3 layers (oceanic crust, continental crust, mantle) and composition of each on the diagram to the right.



7. What were the four types of evidence used to prove the hypothesis of plate tectonics ?
 (a) continental fit, glacial striations, paleomagnetism, fossil assemblage
 (b) age dating, polar wander, earthquakes, fossils
 (c) earthquakes, glacial striations, polar wander, shape of continents
 (d) faulting, age dating, earthquakes, paleomagnetism

8. Define the *lithosphere* and *asthenosphere*? How are they different?

9. What are the 5 properties that define a *mineral* ?

10. What are the three main constituents of an *atom*? Draw a picture of an atom with these 3 particles.

11. Draw a picture of a silicon-oxygen tetrahedron. What is its chemical formula ?

12. Identify the 3 minerals below (from the mineral boxes in the back of class). Use the mineral descriptions attached.

#	Streak (color)	Hardness (1-10)	Luster	Cleavage (How many cleavage planes at what angles to each other ?)	Density (high/med/low)	Mineral Name
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Mineral #5. _____

Mineral #7. _____

Mineral #15. _____

13. Why do *intrusive* igneous rocks tend to be coarse-grained and *extrusive* rocks fine-grained ?

14. Will magma at an oceanic spreading ridge melt at the same temperature as in the continental crust? Why or why not?

15. Describe 3 processes that mechanically weather rocks.

16. What is a foliated metamorphic rock ? Give a few examples.

17. Describe the mineral composition and grain size of these three igneous rocks :
granite, gabbro, diorite.

