Worksheet: Earthquakes and Mountain Building   name: _____
*Answer in complete sentences. Work alone. Music is OK.

1. *Look at figure 1 on page 218. Explain the difference between a focus and an epicenter.

2. Read page 219. What was the maximum amount that the land moved during the 1906 quake?

3. *Read 219-220. How do rocks "store energy" and then eventually release it?

4. *What is the difference between a body wave and a surface wave?

5. List 3 ways that P-waves differ from S-waves.

Look at the graph on page 227 to answer questions 6-9
   6. How long does it take a P-wave to travel 4000 km?   _____

   7. How long does it take an S-wave to travel 4000 km?   _____

   8. What would be the time difference between the arrival of the P and S waves if the epicenter is 1000 km
       away?

   9. If a P-wave arrives at a seismograph station and then the S-wave arrives 3.5 minutes later, how far
       away was the epicenter?

   10. *Explain how liquefaction damaged the building shown in B on page 229.

   11. What is shown in C?

   12. Look at table 2 on page 229. List the location, magnitude, and year of the three biggest earthquakes
       listed there.

   13. Look at figure 11 on page 230. Describe the movement that caused this tsunami.

   14. In what three ways does the tsunami change as it approaches the coast?

15. *Explain what a seismic gap is and tell why it would not be good to live near one.

16. *Read 236 and look at the diagram. Why do the S-waves stop when they get to the outer core?

17. *Read pages 238-239. What happened off the coast of Peru in 1970 and how many were killed?

18. Skip to page 308. Define "deformation".

19. List 4 factors that affect how a rock deforms.

20. Read pages 310-311. Look at the diagrams atop 311. What is the material labeled "Deposition" and where did it come from?

21. *In diagram B, why is the ocean crust sinking and the continental crust rising?

22. What kind of stress (p. 309) caused the folding shown in figure C on page 313?

23. *Look at the diagrams on bottom of page 317. The Helena Valley is a "graben". Explain how a graben forms (in your own words).

24. What kind of stress (309) causes grabens like those on page 317 to form?