Study Guide/Homework

Practice on extended response

Please write the answers on a separate piece of paper.

1. Describe how scientists determine the epicenter of an earthquake. Include these terms: *seismograms*, *arrival times*, *primary waves*, and *secondary waves*.
2. The list below includes three terms that are related to ways that earthquakes can cause damage. Define them and describe how they can cause damage.
   1. aftershock
   2. liquefaction
   3. tsunami
3. Write a short paragraph that describes the differences between the Richter Magnitude Scale and the Mercalli Intensity Scale. Be sure to discuss what each scale measures specifically, how the information is gathered. Be sure to give specific details for each scale for full credit.
4. Please describe how to make buildings seismic-safe. Draw a picture and label the different engineering techniques used and how they help make the building safer during a quake. Base isolators, tension ties, shear walls, cross braces, dampers and flexible pipes.
5. Describe each type of wave – Primary (P wave), Secondary (S wave), and surface waves. Make a chart to show speed at which each wave travels, what materials they can travel through, how they move and if they are body or a surface wave. Which type of wave causes the most damage?
6. What type of earthquake causes more damage if of the same magnitude – a shallow focus one or a deep focus one? Why?
7. What is a focus? What is the epicenter? How can you find the center of an epicenter? What is the process? Describe the steps you need to take in order to find the epicenter of an earthquake.