

## Honors Chapter 6 Earthquakes

Answer on separate paper

### 6.1 – Earthquakes and Plate Tectonics

1. Explain the elastic rebound theory.
2. What are seismic waves?
3. What is the cause of aftershocks?
4. Explain the difference between the focus and the epicenter.
5. What type of fault is shown in the diagram on p. 99? How can you tell?
6. What are the ranges of depths for shallow, medium and deep earthquakes? What type of earthquake is most common (shallow, medium or deep)?
7. Why don't earthquakes occur deeper than 650 km?
8. Which of the three types of earthquakes (shallow, intermediate, or deep) causes the most damage? Explain.
9. List three major earthquake zones. Which of the three earthquake zones are we located in?
10. Why are the major earthquake zones located along or near the edges of lithospheric plates?
11. Describe the four types of plate movements that cause earthquakes.

### 6.2 – Recording Earthquakes

1. Describe the three separate sensing devices of a seismograph.
2. Compare and contrast P and S waves in terms of their: relative speeds, the type of wave they are and what materials they can travel through.
3. How are surface waves created? How are they different from S and P waves?
4. Which of the three types of waves is most destructive. Why?
5. Describe the method to locate the position of an earthquake.
6. Information from how many seismograph stations are needed to locate the epicenter of an earthquake? Why won't information from one or two stations allow you to find the epicenter?
7. What does the magnitude of an earthquake measure?
8. What are the magnitudes of a micro quakes, moderate quake, and major quake?

9. What does the Mercalli Scale measure?
10. What does the intensity of an earthquake describe?
11. What does the intensity of XII on the Mercalli Scale mean?

### **6.3 – Earthquake Damage**

1. What is the cause of most injuries in an earthquake?
2. Which is worse, a moderate earthquake that continues for a long time or an earthquake of higher magnitude that lasts only a short time? Why?
3. Buildings built on what type of ground are more likely to be damaged in an earthquake? Why?
4. What is a tsunami? Where is the epicenter of a tsunami located? What are two causes of tsunamis?
5. What does the PTWC stand for? What does it attempt to do?
6. What are the three earthquake safety rules to follow?
7. What should you do if you are indoors during an earthquake? In a car?
8. What was one of the earliest means of predicting earthquakes?
9. What is a seismic gap? Where is an example of a fault zone with seismic gaps?
10. Describe how scientists might use magnetic field and electrical conductivity measurements to predict earthquakes.
11. What information from wells might indicate the possibility of an earthquake? Explain.
12. Describe how the change in speed on P waves might be used to predict the strength of an earthquake.