

Science - Ch. 6 Study Guide

1. What is a fracture surface along which rocks can slip called? **fault**
2. **Elastic** strain is a direct cause of earthquakes.
3. Relative to the entire earth's geology, where do most earthquakes occur? **Along plate boundaries**
4. Describe the locations of an earthquake's focus and epicenter, relative to each other.
The epicenter is the location directly above the focus, on the surface of the earth
5. Which type of wave cannot travel through liquids (but can travel through solids)? **Secondary waves**
6. When a seismograph that is far away from an epicenter records an earthquake, the P waves would arrive (**earlier or later?**) than the S-waves.
earlier
7. Which type of seismic wave travels fastest through rock? **Primary waves**
8. Which type of seismic wave causes the most damage? **Surface waves**
9. What is a seismograph? **Instrument used to record seismic waves to determine magnitude of earthquakes**
10. Label the p-wave, s-wave, and surface wave on this seismograph reading.
1.) P-wave 2.) ignore 3.) s-wave 4.) surface wave
11. What is an epicenter? **Point on the earth's surface directly above the focus**
12. What is a tsunami? **Seismic sea wave**
13. At least **3** seismograph recordings are needed to locate the epicenter of an earthquake. This location method is called **triangulation**.



14. How much stronger is an earthquake with a magnitude of 3.0 than an earthquake with a 2.0 magnitude? **About 30x**
15. What is the Moment Magnitude Scale based on? **Amount of energy released during an earthquake**
16. Name the most common hazard that can occur after an earthquake.
Structural damage that leads to fires
17. What is liquefaction? **Process that causes loose sediment to act more like a liquid**
18. **Know** the following sequence of events that lead to an earthquake:
1. As tectonic plates move, rocks have tension forces acting on them.
 2. The rocks stretch and bend
 3. The rocks stretch beyond their elastic limit
 4. The rocks snap, releasing energy.
19. **Be familiar** with the seismogram records on the top of pages 262 and 263. Be able to identify the arrival time differences of P-waves and S-waves. (**Know which are P-waves and which are S-waves in a diagram of an earthquake's activity**).
20. **Know** this earthquake chart by duplicating its contents in the blank grid below:

Plate Motion	Prominent Fault Type	Earthquake Characteristics
Transform	Strike – slip fault	Moderate, strong, shallow
Convergent	Reverse fault	Strong, deep
Divergent	Normal fault	Weak and shallow

****Copy chart above to know**