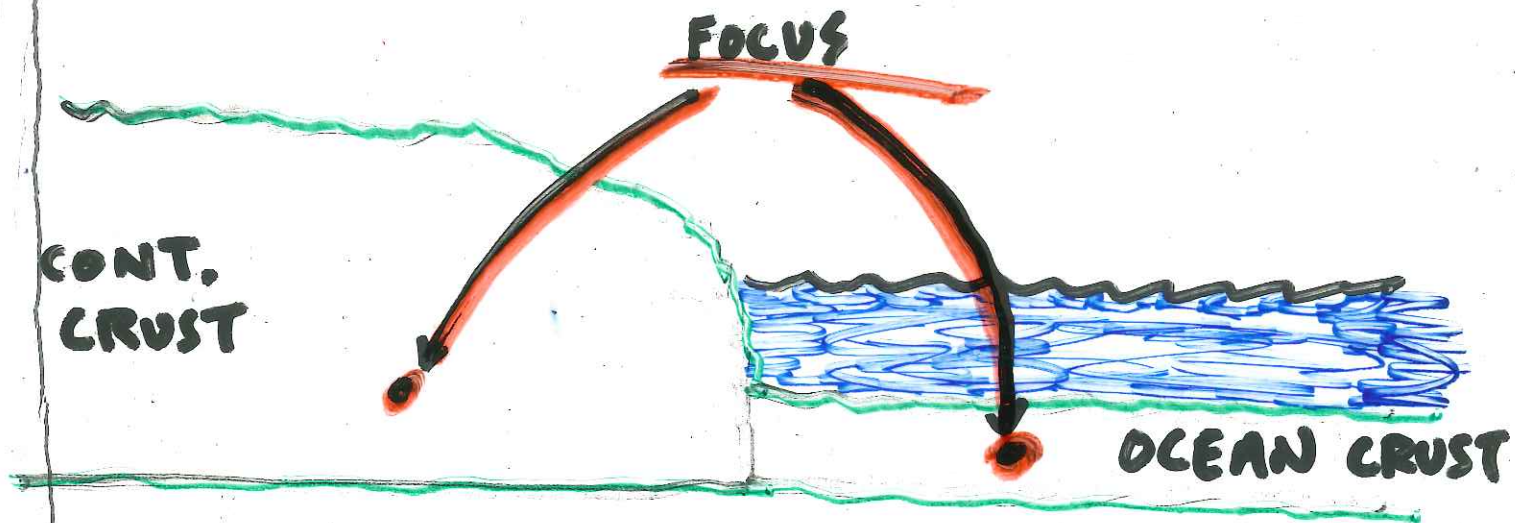
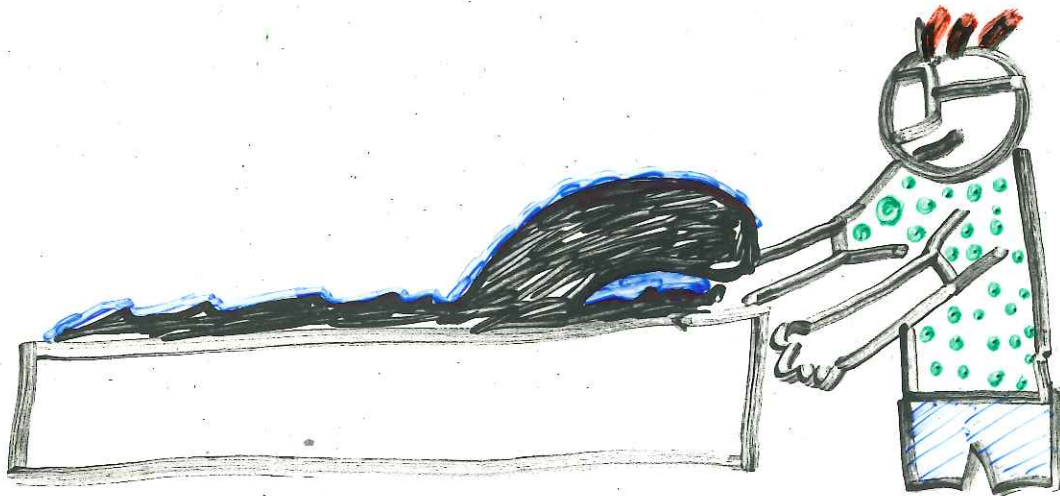


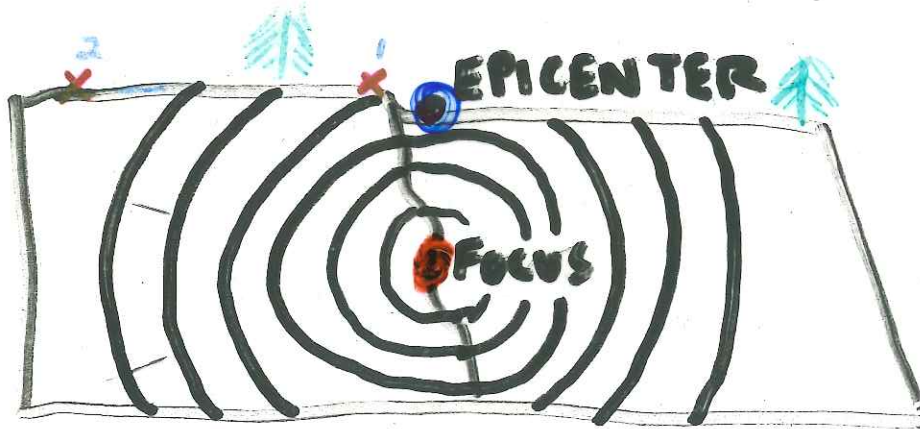
Well sorta..... They can occur in the oceanic crust.



This causes the water above to be unstable like carrying a water tub.



21. TSUNAMI is a giant sea wave caused by movement in the ocean floor. Pg 376, figure 16

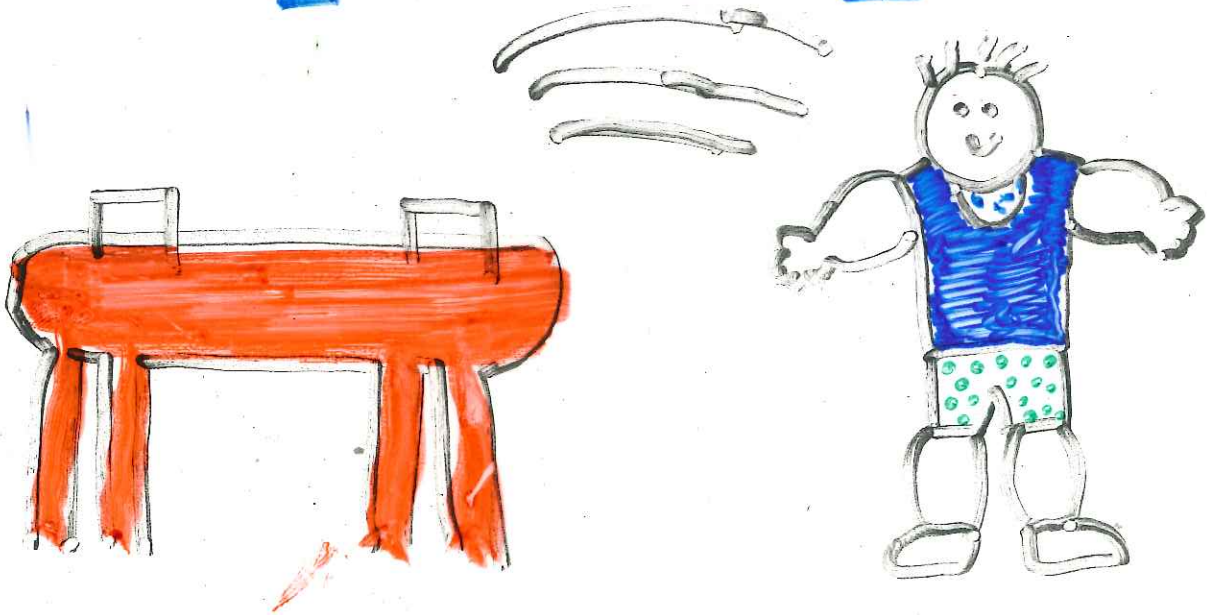


Seismologist can pinpoint a quake by using the S-P time method.
Pg 203, figure 9

19. RICHTER SCALE is the measure of the earthquake strength on a scale 1-10

Weak ~~1-10~~ *Strongest*

20. MAGNITUDE 1 is weak and MAGNITUDE 10 is very destructive.

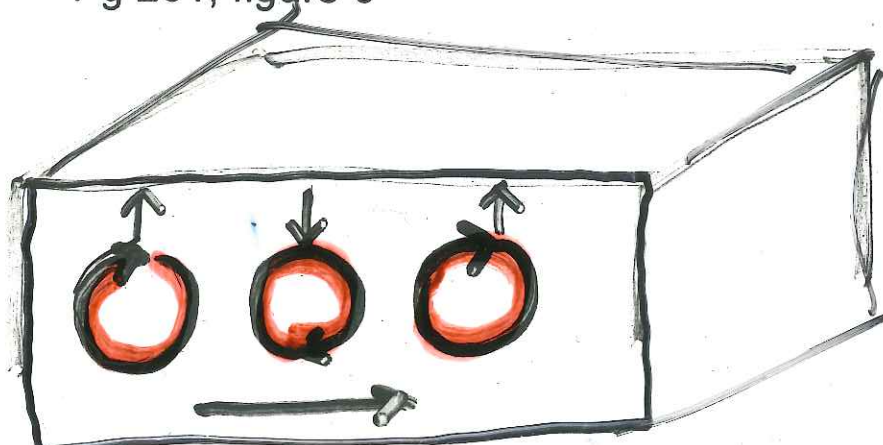


Can earthquakes occur in water?



13. SURFACE WAVES (L waves)

- Travel on surface
- Move the ground up and down
- Slowest, but most destructive
- Pg 201, figure 6



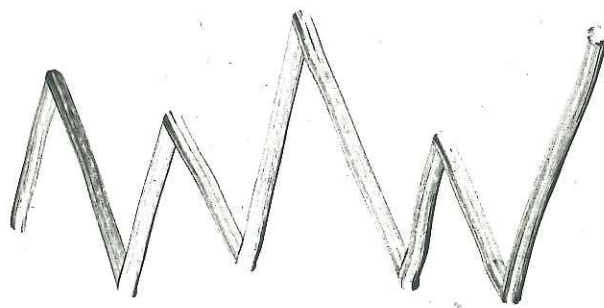
Section 2 – Earthquake Measurement

14. SEISMOGRAPH is an instrument used to record seismic waves.
Machine

15. SEISMOGRAM is the paper tracing of the earth's movement.
Paper



Normal Earth Movement



16. WEAK QUAKE

STRONG QUAKE

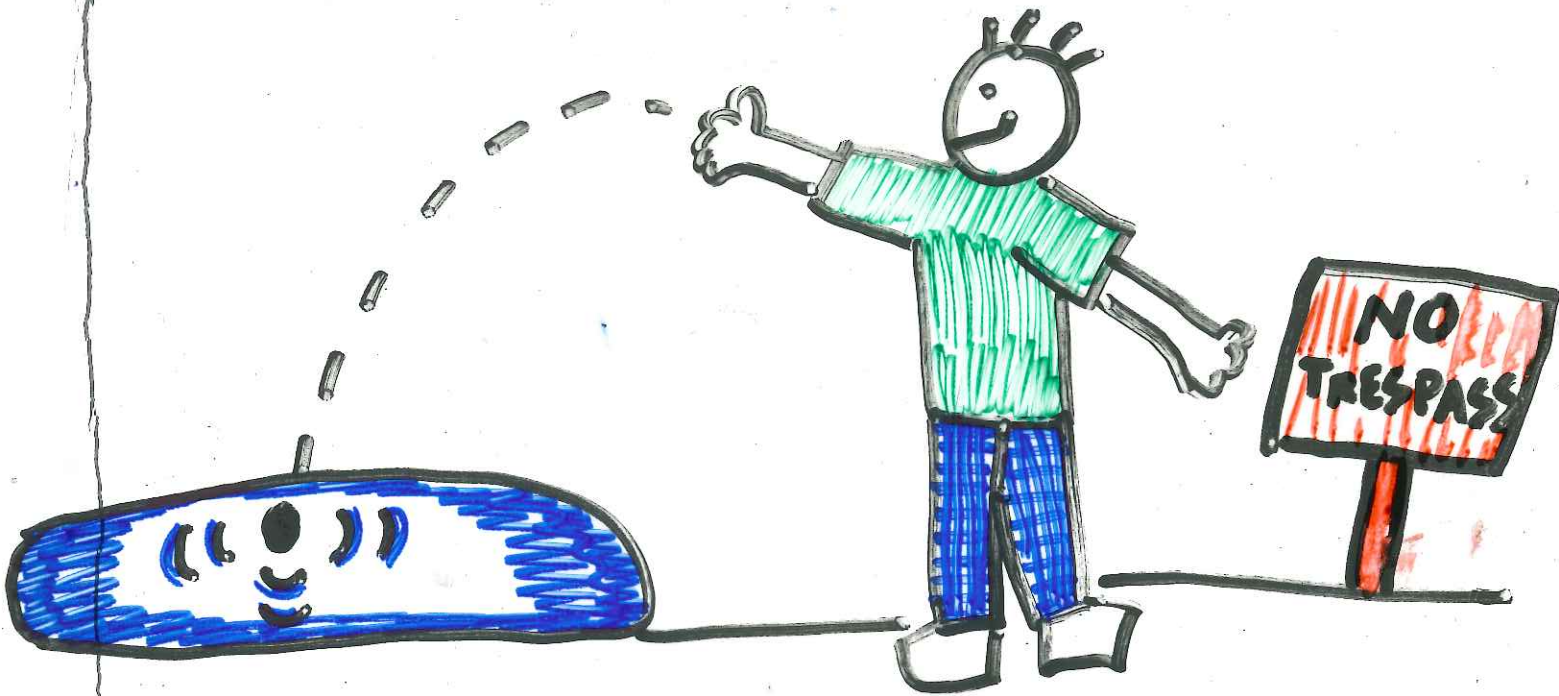
Here's how a seismograph works. (rolled paper and needle)
Pg 202, figure 7

17. EPICENTER is the point on the surface above the earthquake starting point.

18. FOCUS is the point inside the earth where the quake begins.



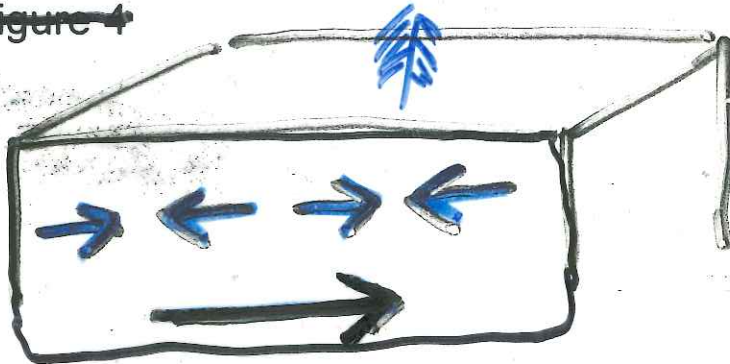
9. SEISMIC WAVES are waves of energy that travel through the earth.



10. Body Waves (P and S WAVES) travel through the earth's interior.

11. P WAVES (Primary or Pressure Waves) Compressional waves Push - pull

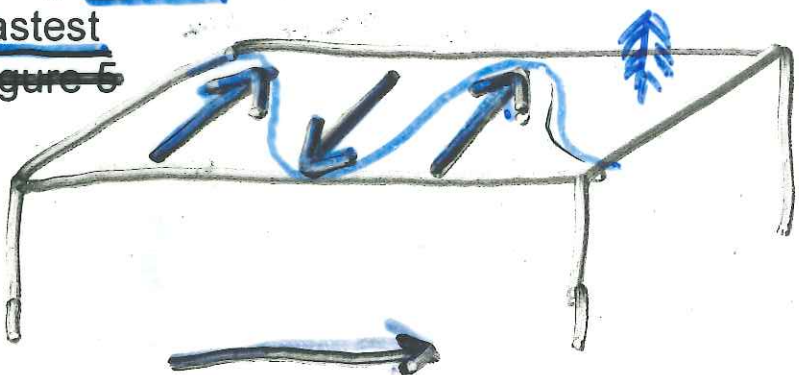
- Travel through solids and liquids, gases.
- Travel the fastest
- Move back-n-forth in a squeeze to stretch position
- ~~Pg 200, figure 4~~



12. S WAVES (Secondary or Shear Waves) Snake

- Travel through solids.
- Second fastest
- ~~Pg 200, figure 5~~

about 1/2 Speed of P wave



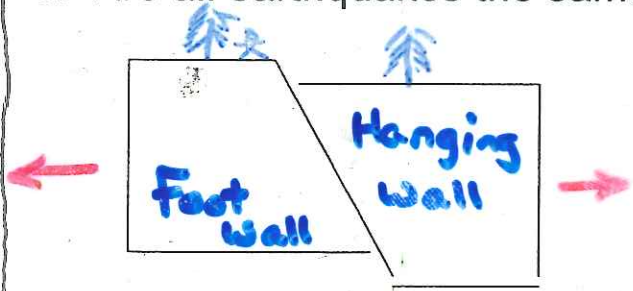
6. DEFORMATION the change in shape of the rock due to stress.

Pg 197, figure 2 - bent landscaping wall

Pg 197, figure 3 - energy released, similar to knuckles jumping.

7. ELASTIC REBOUND is the sudden return of deformed rock back to its original shape and this causes an earthquake. (like a stretched rubber band snapping)

8. Are all earthquakes the same?

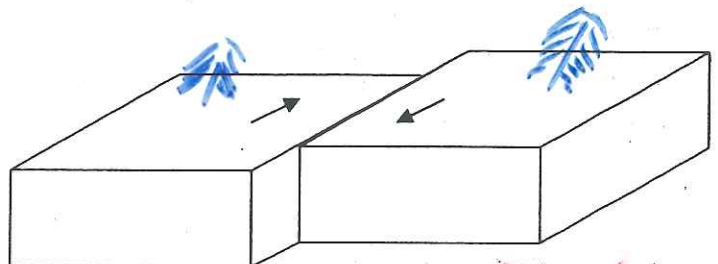


Tension Stress

DIVERGENT BOUNDARY

NORMAL FAULT

WEAK EARTHQUAKE

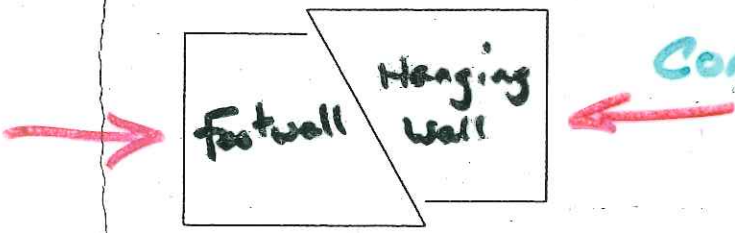


San Andres Fault CA

TRANSFORM BOUNDARY

STRIKE-SLIP FAULT

MODERATE EARTHQUAKE

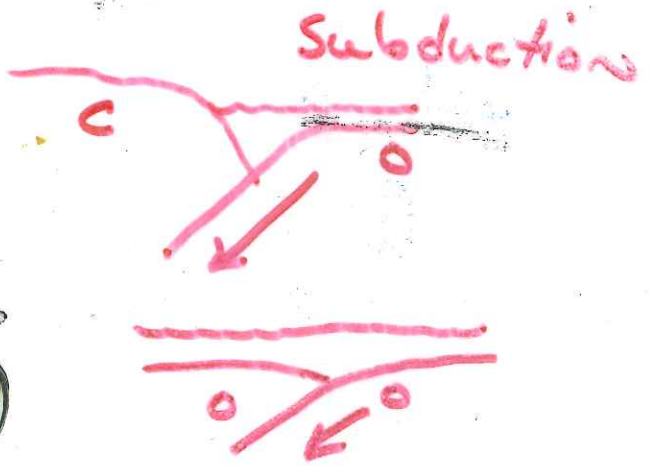


Compression

CONVERGENT BOUNDARY

REVERSE FAULT

STRONG EARTHQUAKE



Subduction

EARTHQUAKES – Chapter 8

Page 194 – Japan Earthquake

Has anyone been in an earthquake?

- Riverside, CA 1979
- Lansing, MI early 90's
- World Series 1989
 - Oakland vs San Francisco (Candlestick Park)

Section 1 – What are Earthquakes?

1. SEISMOLOGY is the study of earthquakes.
2. Most earthquakes take place near the edge of TECTONIC PLATES.
3. Pg 196, figure 1, The most active earthquake zone lies along the boundaries of the PACIFIC OCEAN also known as the RING OF FIRE.
4. How often do earthquakes occur? ABOUT EVERY 30 SECONDS.
NEIC (National Earthquake Information Center) data overhead
5. FAULT is a break in the earth's crust along which blocks slide.

