



EARTHQUAKES!



What is an earthquake?

The movement of Earth's crust resulting from the release of built up potential energy between two stuck tectonic plates!

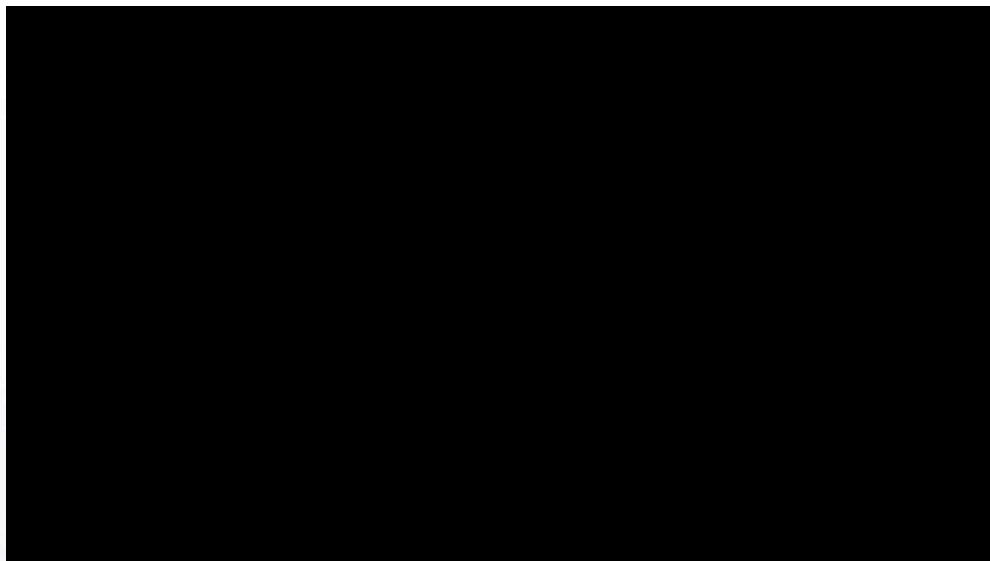
It's like when your teacher loses their marbles because you've asked them the same question 7 times in a row!





SEISMIC WAVES

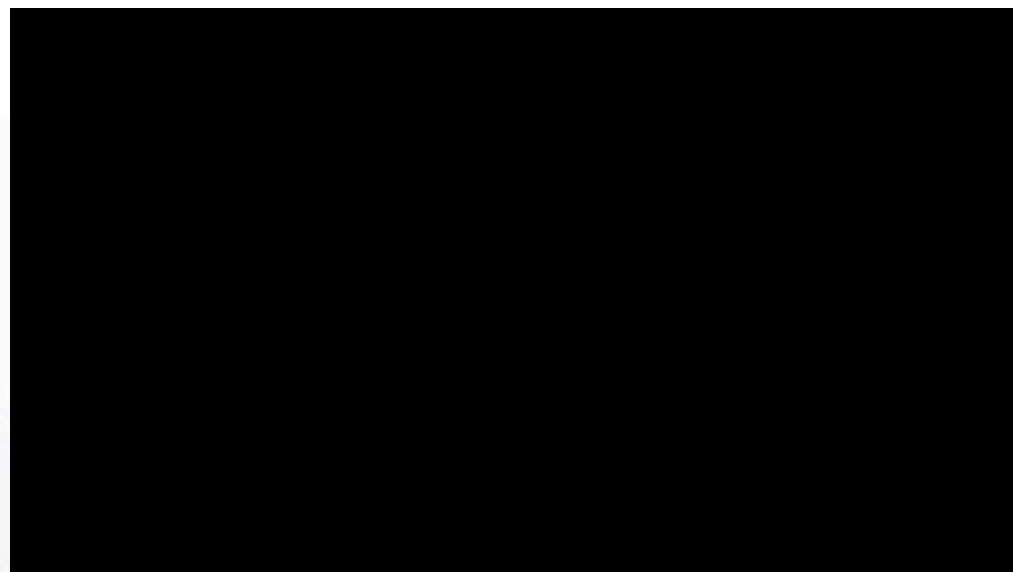
- P waves - P stands for primary
- These waves arrive first
- Move with a push-pull motion





SEISMIC WAVES

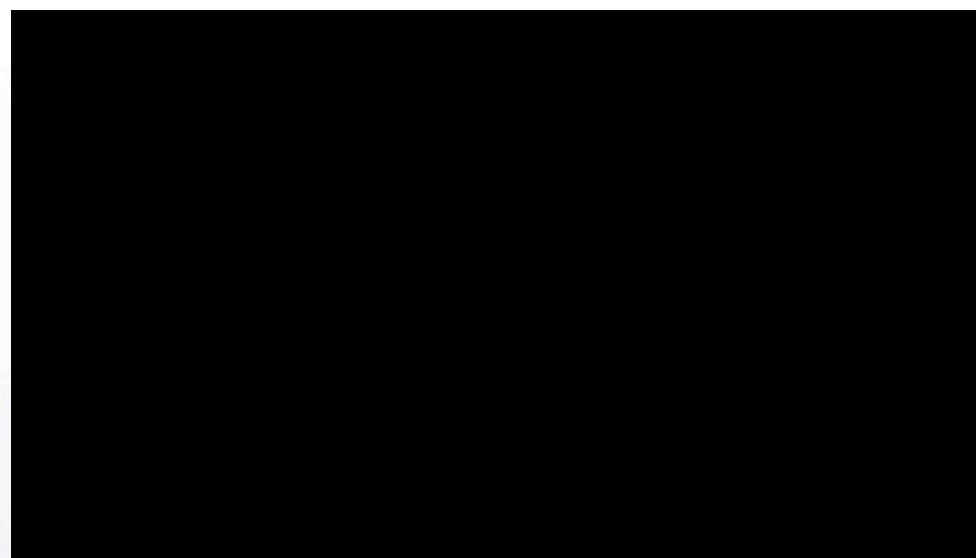
- S waves - S stands for secondary
- These waves arrive second
- Move with a side-to-side motion





SEISMIC WAVES

- Surface waves - slowest
- Cause the most damage
- Move with an up and down and side-to-side motion





Locating an epicenter

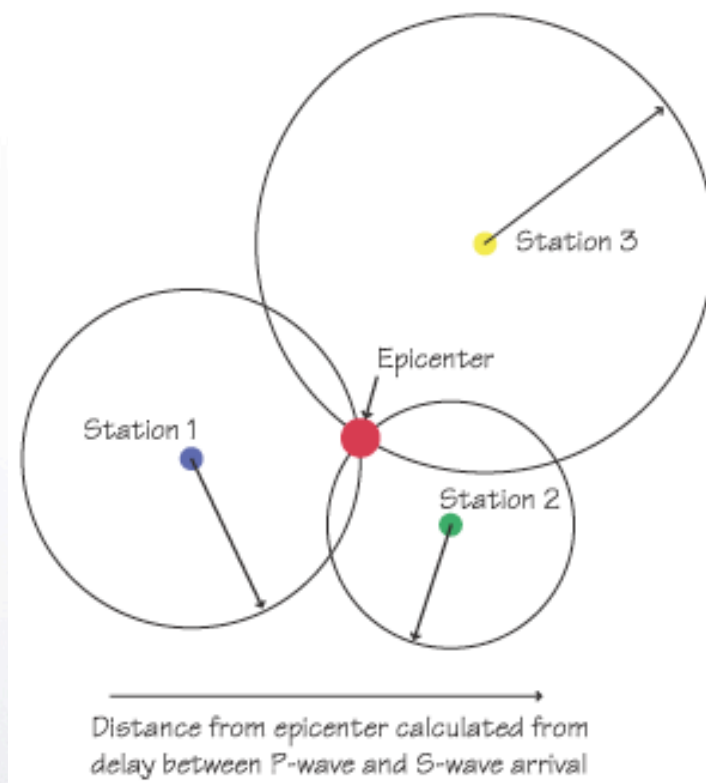
- You need at least 3 seismic stations to locate an epicenter
- The P and S waves help determine where the epicenter is located
- Where all three circles meet is the location of the epicenter





Locating an epicenter

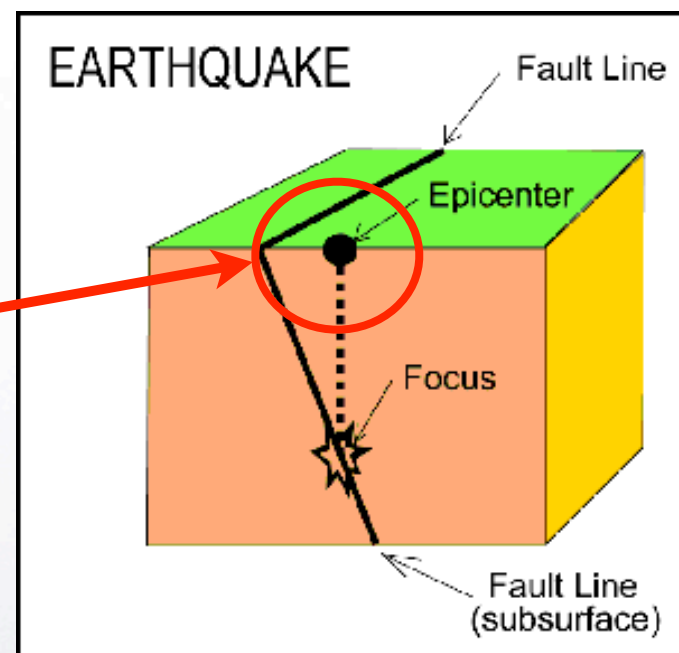
- The farther you are from the epicenter, they greater the S-P Interval (the time between when the P wave hits and the S wave hits)





What is an epicenter anyway?

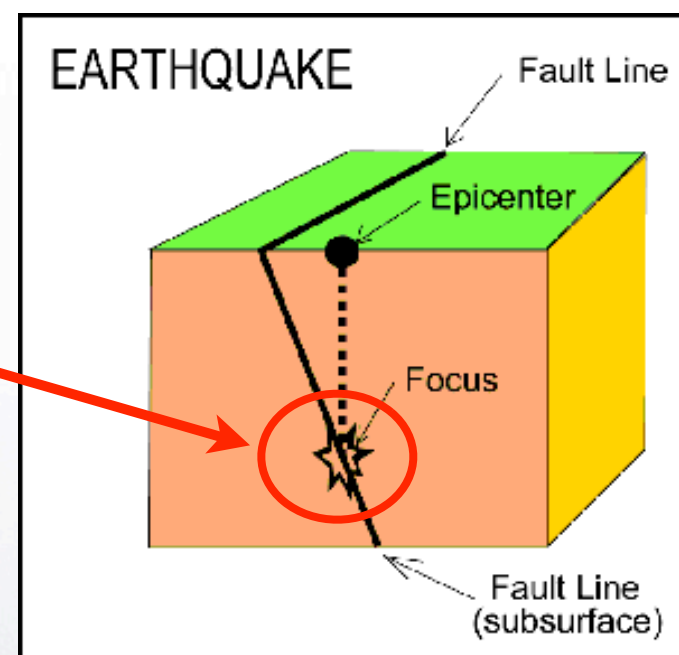
- By definition: A point on Earth's surface that is directly above the focus of an earthquake, where the *shaking is strongest and most damage occurs*





Focus?

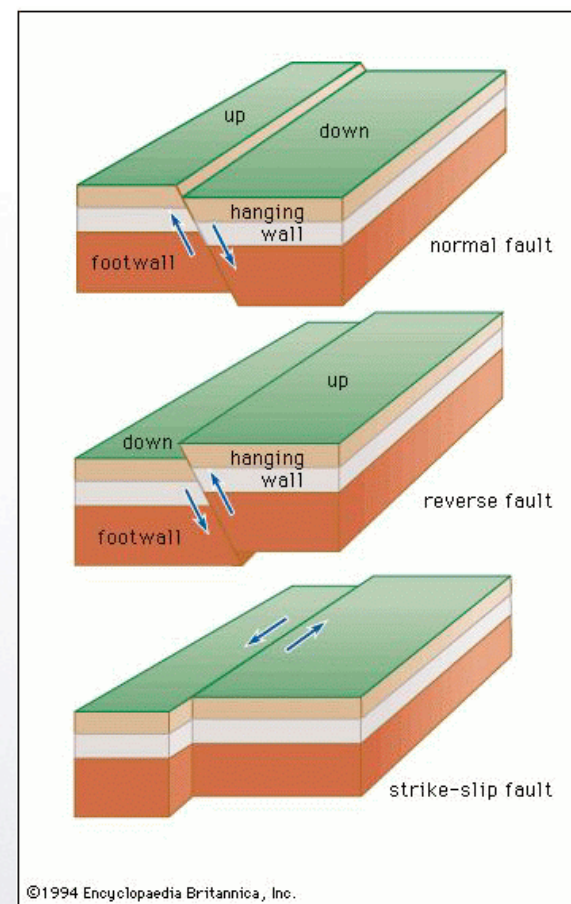
- By definition: point below Earth's surface where the rock breaks along a *fault* and energy is released





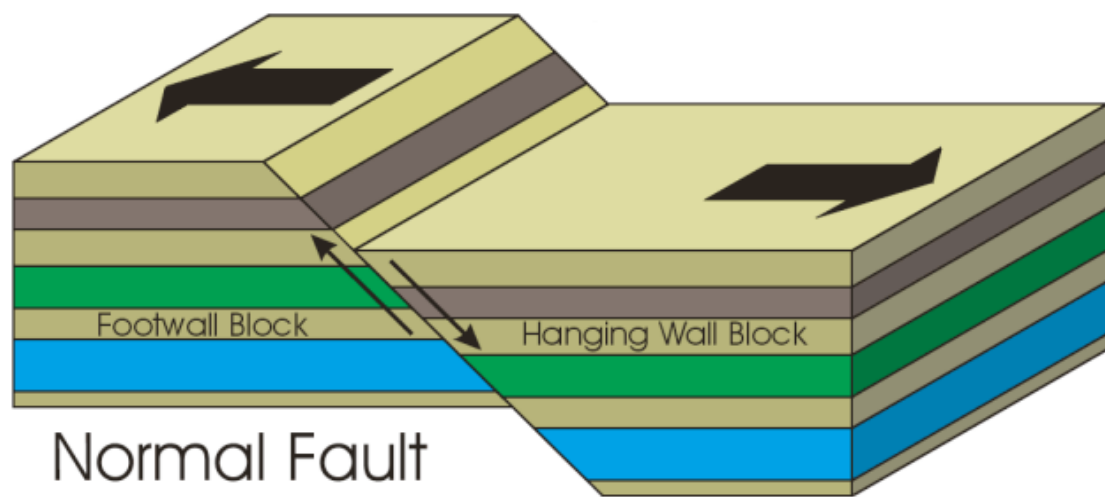
Fault? Yours or mine?

- A fault is a region on Earth's surface that is broken into 2 pieces
- There can be three types of movement
- In these diagrams, the "hanging wall" is the side that moves up or down

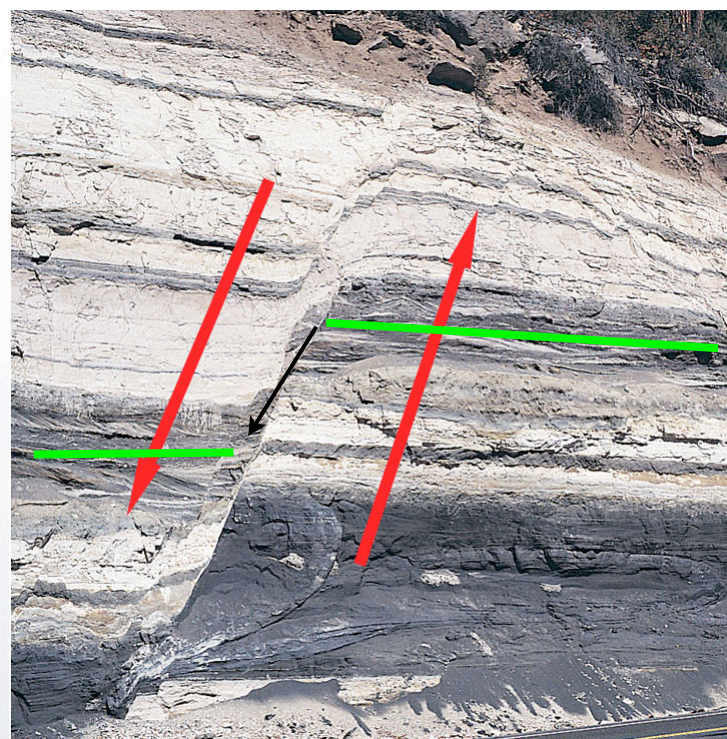




Normal fault - pulling apart

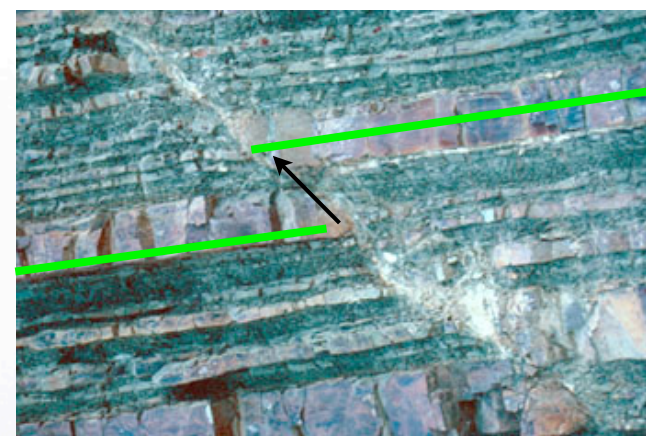
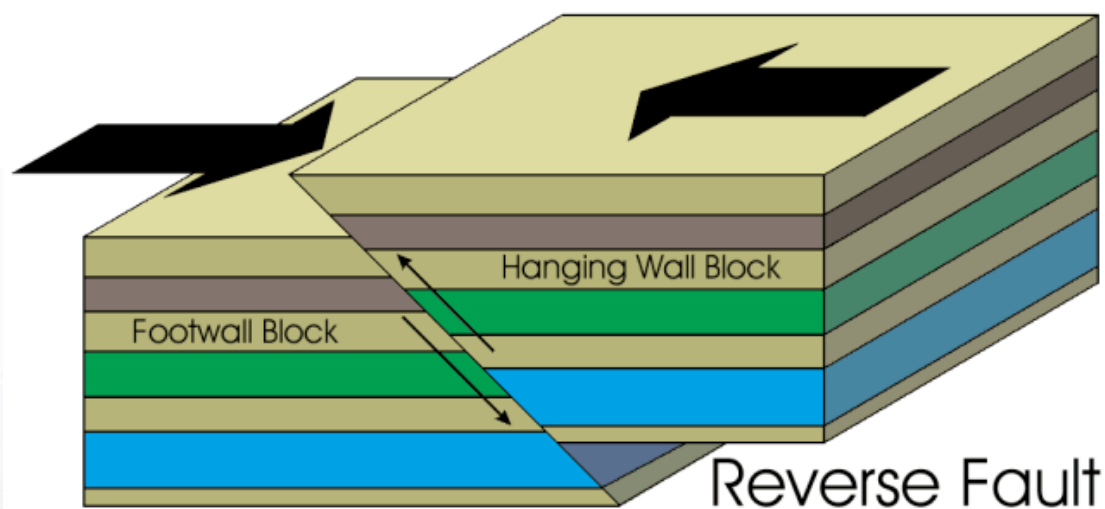


The hanging wall moves down - follow the dark layer





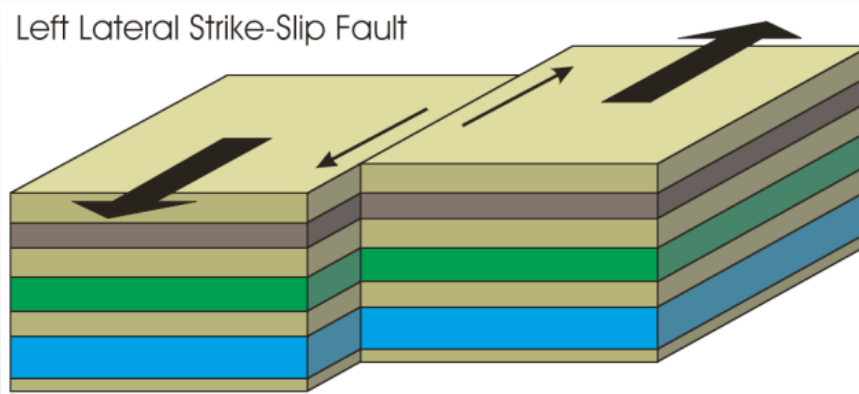
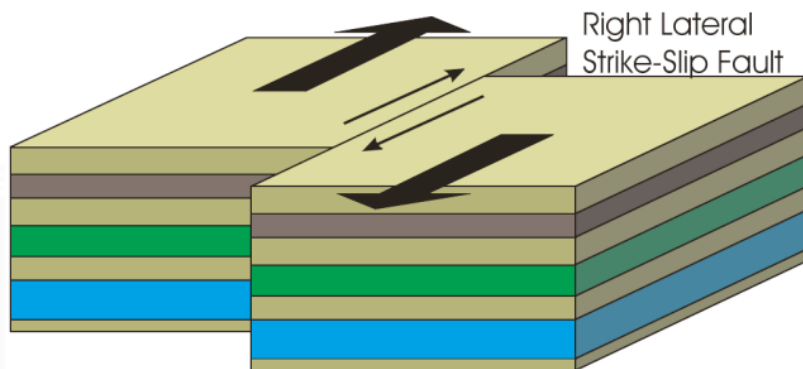
Reverse Fault -



Here the hanging wall moves up - follow the bronze colored layer



Strike-slip or lateral





See how the road is not
continuous?





Off-set crops in CA



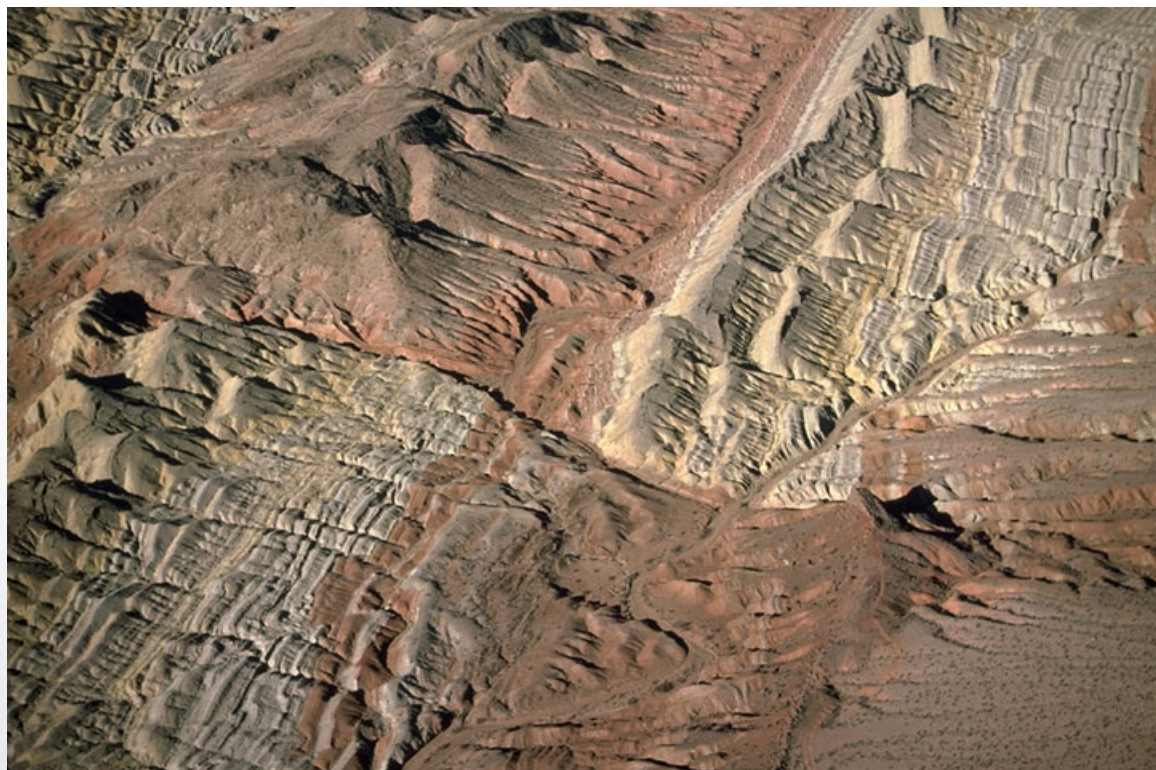


Another example





S Nevada



Can you find the
fault?