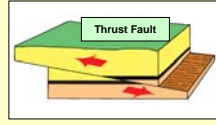
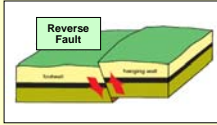
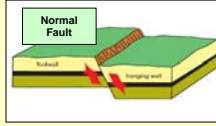
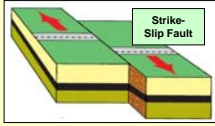




Earthquake Basics

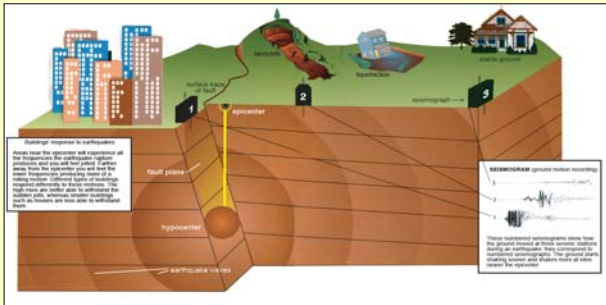
KNOW YOUR FAULTS!!!



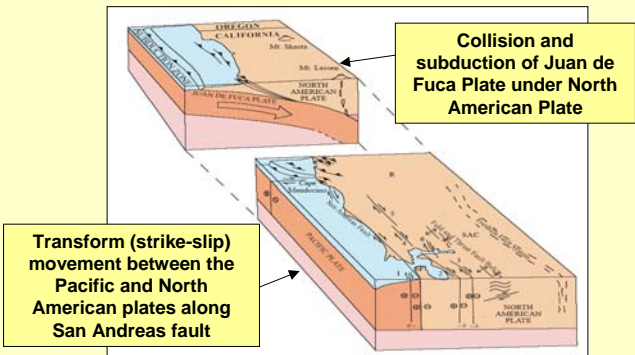
QUAKE BITS

- An **EARTHQUAKE** is the sudden release of built-up strain within the earth.
- The measure of the energy released in an earthquake is its **MAGNITUDE (M)**.
- A two-unit increase in magnitude equals 1000 times the amount of energy released. Example: a M 7 earthquake gives off 1000 times the energy of a M 5.
- INTENSITY** is the measure of earthquake effects (shaking felt, damage, etc.).
- A **SEISMOGRAPH** is an instrument that detects and measures earthquake. To see one of CGS's seismographs, visit the State Capitol in downtown Sacramento!

ANATOMY OF AN EARTHQUAKE



THE BIG PICTURE - PLATE TECTONICS OF NORTHERN CALIFORNIA



Simplified block diagram of the plate tectonic setting of northern California. SF=San Francisco, SAC=Sacramento, V=Vacaville, and R=Redding. The plus (+) and minus(-) signs in the block diagrams represent the relative movement of each side of the fault; plus indicates that side is moving into the diagram, minus is out of diagram. Faults are labeled by number: 1) San Gregorio, 2) Hayward, 3) Calaveras, 4) Rodgers Creek, 5) Maacama, and 6) Green Valley faults.

EARTHQUAKE MYTH BUSTER - California will NOT fall into the ocean like many movies portray. Because of horizontal movement along the San Andreas fault, half of California will not sink into the Pacific Ocean. With this lateral movement, millions of years from now the cities of Los Angeles and San Francisco might become neighbors...now THAT is an interesting thought!

Figure sources: CGS, U.S. Geological Survey, and Southern California Earthquake Center.