Science: Body of Knowledge
Way of Solving Problems
Scientific Method:
  Observation, Gathering and Organizing Data,
  Hypothesis, Theory and Law

Geology: Study of the Earth
Physical Geology: Materials and Processes that affect the Earth
Historical Geology: The sequence of events that formed a landscape

Geologic Provinces:
  Great Valley          Sierra Nevada
  Basin and Range      Cascades Ranges
  Modoc Plateau        Klamath Mountains
  Mojave Desert        Colorado Desert
  Peninsular Ranges    Transverse Ranges
  Coast Ranges

Earth Materials: (Harden, chap. 2)
  Crustal Elements: OSiAlFeCaNaKMg
  Rock-forming Minerals: Quartz, Feldspar, Mica, FerroMags, Olivine
  Rock Cycle
  Igneous Rocks
    Plutonic: Peridotite, Gabbro, Diorite, Granite
    Volcanic: Basalt, Andesite, Rhyolite, Obsidian, Pumice
  Plutons: Dike, sill, batholith, stock
  Sedimentary Rocks:
    Clastic: Conglomerate, Sandstone, Shale
    Biogenic (Biologic): Limestone, Coal, Diatomite
    Chemical (Inorganic): Rock Salt, Gypsum
  Metamorphic Rocks
    Foliated: Slate, Schist, Gneiss
    Granular: Quartzite, Marble

Geologic Time: (Harden, chap. 3)
  Relative Dating:
    Uniformitarianism, Faunal Succession
    Superposition, Original Horizontality
    Cross-cutting Relationships, Inclusions
  Absolute Dating:
  Geologic Time Scale:
    Proterozoic 2.5 billion to 545 million years
    Paleozoic 545-245 million years
    Mesozoic 245-65 million years
    Cenozoic 65-0 million years
Structure of the Earth (Harden, chap. 1)
  Inner Core; Outer Core; Mantle; Crust
  Lithosphere: Continental Crust, Oceanic Crust, Upper Mantle
  Asthenosphere

Plate Tectonics: (Harden, chap. 1)
  Evidence for Continental Drift:
    Matching coastlines
    Matching rock and structures (i.e. mountain ranges)
    Matching fossils
    Paleoclimatic evidence
    Paleomagnetism
    Age and thickness of seafloor sediments
    Satellite measurements
  Plate Boundaries:
    Divergent: Oceanic and Continental
    Convergent:
      Ocean - Ocean
      Ocean - Continent
      Continent - Continent
    Accretionary wedge, fore-arc basin, magmatic arc
    Transform: Strike-slip faults
    Hot Spots and Mantle Plumes

Plate Motions Throughout Geologic Time
  Rodinia and Pangaea
  Tethys Sea

Tectonic events in California (Class handouts; Harden, chap. 18)
  Mazatzal Orogeny 1.7 by
  Continental Rifting 1.2 - .85 by
  Atlantic Style Margin 800 - 400 my
  Antler Orogeny 400-360 my
  Japanese Style Margin 400 - 200 my
  Sonoma Orogeny 245 - 200 my
  Andean Style Margin 200 - 28 my
  Nevadan Orogeny 140 my
  Override of East Pacific Plate by North American Continent
  California Style Margin 28 my to present