

## **Review for Earth Science Lecture Final (Wed, December 5th; 4:20 p.m.)**

### **The Basics of Geologic Time**

terms: geologic time, relative geologic time, absolute geologic time, Law of Superposition, Law of Cross-cutting Relationships, geologic event, radiation, isotope, radioactive parent isotope, stable daughter isotope, half-life, Uranium-Lead dating, Carbon 14 dating

- what are some of the geologic events that can disrupt superposition in rocks?
- how to use radioactive parent/stable daughter isotopes to determine absolute geologic time
- what are some of the problems with radioactive isotope dating?

### **A Brief History of the Earth**

terms: the Big Bang, supernova, accretion, differentiation, Eon, Theia, Hadean Eon, Archean Eon, Proterozoic Eon, Phanerozoic Eon, Era, Paleozoic Era, Mesozoic Era, Cenozoic Era, fossils, stromatolites, metazoans, invertebrates, vertebrates, amphibians, reptiles, amniotic egg, dinosaurs, mammals, Rodinia, Pangea, Age of the Invertebrates, Age of Fish, Age of Amphibians, Age of the Reptiles, Chicxulube, Age of the Mammals, Holocene Epoch

- the current theory for how our Moon formed
- know the major geologic events that occurred within the 4 Eons
- the geologic events that mark the boundaries between the 4 Eons
- how the eras of the Phanerozoic eon are named.

### **Solar System and the Planets**

terms: Solar System, Sol, Planet, Dwarf Planet, small solar system bodies, Satellites, Oort Cloud, terrestrial planets, gas giant planets, asteroid belt, ice bodies, molecular cloud, nebula, solar nebula, proto-planetary ring, accretion, comets, Kuiper belt, meteoroid, meteorite, meteor, asteroid

- the basic chronology of the Big Bang
- what is the basic composition of the planets in our solar system?
- what is the solar nebula theory for the formation of our Solar System?

### **The Earth's Interior and Plate Tectonics**

continental crust, oceanic crust, mantle, asthenosphere, moho, outer core, inner core, granite, basalt, peridotite, Fe-Ni metal, seismic waves, body waves, P-waves, S-waves, surface waves, focus, epicenter, seismograph, seismogram, geophone, Plate Tectonics, Continental drift, sea floor spreading, convection cells, Divergent Plate Boundaries, mid-oceanic ridge, Convergent Plate Boundaries, Transform Plate Boundaries, compression, tension, shear, subduction, orogenic events, strike-slip faults

- how to read a seismogram
- how the Richter Magnitude Scale is determined
- What P and S waves tell us about the composition of the different layers within the earth
- Some evidences for continental drift
- Some evidences for sea floor spreading

### **Comprehension Part**

reservoirs, fluxes, upland stream, lowland river, karst topography, aquifer, aquitard, desert, steppe, longshore currents, high tide, low tide, spring tide, neap tide, relative humidity, high pressure system, low pressure system, salinity, gyres, mineral, ferromagnesian silicate, nonferromagnesian silicate physical property, texture, rock, igneous rock, sedimentary rock, metamorphic rock, crystallization, recrystallization, lithification, phaneritic texture, porphyritic texture, glassy texture, detrital texture, nondetrital texture, foliated texture, nonfoliated texture

- what are the reservoirs and fluxes in the Hydrologic Cycle?
- the geologic features associated with an upland stream and a lowland river
- how does groundwater flow ?
- how does a cave form ?
- the 3 types of deserts and where they form
- how do the processes of wave refraction shape the shoreline ?
- how are the oceans layered and what causes the layering ?
- what is the structure in the atmosphere and how is it determined ?
- how is relative humidity calculated ?
- the definition of a mineral
- the three major rock groups and their definitions