

Test 2 Review Sheet Geology 202 Fall 2007

Chapter 6 Origin and Interpretation of Sed. Rocks

- Clues to past environments from sed. Rocks with: color, composition, grain size, grain shape, sorting, fossils,
- Sedimentary structures and what they tell us: bedding, cross bedding, ripple marks, mud cracks, bioturbation
- Depositional environments: carbonate environments, evaporite environments
- How to recognize these ancient environments (was a shale formed on the continent, in ocean?)
- Sea level curves

Chapter 7 Evolution

- Inheritance of acquired traits vs. natural selection
- Mutations: not all bad, some just adaptations
- Allopatric speciation
- Phyletic gradualism vs. punctuated equilibrium
- Divergent, convergent, parallel evolution
- Classification of organisms

Chapter 1 Origin of universe

- Big Bang theory: elements it made, evidence of, general concepts
- Solar nebula theory: general concepts
- Categories of planets and characteristics
- Homogeneous accretion theory for Earth
- Moon: parts of surface, rock types there, how formed (early theories and current one)
- Impact craters on Earth vs. moon

Chapter 8 The Archean

- Breakdown of the Precambrian and why divisions put where they are
- Eoarchean: what we know about it, what we have left from it, what first crust was like, how to make granite, what oldest zircon indicates about early Earth history
- Archean: first crustal fragments collide by subduction, making cratons
- Craton vs. shield
- Archean rocks: granite-greenstone belts and evidence that greenstone erupted on ocean floor
- Accretion of crust in the Archean and the model of Archean tectonics vs, today
- 1st atmosphere and composition, why lost?
- 2nd atmosphere: composition, why not lost, where did it come from? Which major gas is missing?
- How did oxygen get made initially? Why didn't this continue on? What was 2nd source of oxygen? Why did that take a while to start up?
- Hydrosphere: where did it come from?
- Definition of life, what is needed to start it, monomers, two possible places it did start

- Characteristics of first life
- Oldest known organisms (actually step two of life development)
- What these organisms brought to our atmosphere and how

Chapter 9 The Proterozoic

- Laurentia: adding land to is by accretion and subduction
- Evidence of where suturing occurred: orogens
- Early Proterozoic sed rocks: sandstone, shale, limestone (new on the scene) and what these mean for sed environments
- Passive continental margins: what they are, rocks forming there
- Proterozoic red granites: not from typical subduction processes
- mid-continent rift: how to recognize stages of rifting in rock record
- Supergroups of Proterozoic in basins in west along passive margin
- 1st supercontinent: Rodinia formed and broke up
- Proterozoic glaciers: evidence of
- Snowball Earth theory: evidence of, where glaciers would have been (equator), impacts on climate and life, how we can turn to hot house after snowball Earth.
- BIF: how formed
- Oxygen in atmosphere: appears with BIF and red beds
- Appearance of eukaryotes
- Appearance of multicellular life and benefits
- Ediacaran fauna: importance in evolution, why rarely preserved