

HISTORICAL GEOLOGY: TEST 2 STUDY SHEET. KNOW NOT ONLY THESE TERMS, BUT ANY CONCEPTS ASSOCIATED WITH THEM, AND THEIR INTERRELATIONSHIPS.

Relative vs. Absolute ages/dating

- Relative dating techniques- superposition, correlation, lateral continuity, Uniformitarianism, cross-cutting relationships, horizontality, index fossils/fossil assemblages, unconformities (all 3)
- Sequence Stratigraphy
- Bedding
 - Naming Rocks-formation/group
- Facies- lithofacies/biofacies concept
- Transgression/Regression
 - Transgressive facies
 - Regressive facies
 - Walther's Law
- Isotope
- Isotope/radiometric dating
 - What/how
- Half-life
- Which isotopes are useful for very old rocks
- Which isotopes are completely un-useful, ie. Carbon

Earth's layers

- What/how/why developed
- Layering by composition: core, mantle, crust
- Evolution & timing of crust
- Origin of plate tectonics & evolution of plate tectonic theory
 - Continental drift vs . plate tectonics
 - Wegner, Hess, Vine
 - paleomagnetism
- Age of Earth- what is it, how determined
 - Oldest rocks in NA
 - Oldest rocks in World- Australia
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Cryptozoic History of Earth

- Cryptozoic- what it means & time frame. What eras are included here?
- Origin of the Earth/ Big Bang Theory
- Origin of planets theory
- Origin and early oceans

- Origin of continental crust- age, how it evolved to become silica rich and grow larger
 - Collisional terranes
 - Craton/Continental shield
 - Canadian Shield/What constitutes the craton of modern NA?
 - Age of oldest rocks in NA
- Isotopic date province
- Orogeny/ogenesis
- Rodinia Supercontinent & Grenville Orogeny- what/when/where
- Laurentia
- Development of the atmosphere- timing and evidence for a gradual development
 - Role of stromatolites
- Vanager Glaciation- what/when /possible significance to development of life on Earth
 - Snowball Earth Theory
- 1st organisms
 - Cyanobacteria- what/when
 - Vendian/Ediacaran Faunas-what/when and where

Early Paleozoic History of Earth

Cambrian

- When (age)
- Transgression history-
 - Sauk Sea
- Epeiric sea
- Tectonic history-
 - Transcontinental arch
- Rock history-
 - Major depositional framework- i.e. siliciclastic or carbonate
 - mature sandstones
- Life history-
 - Cambrian explosion
 - Significance of major phyla established
 - Type of life (terrestrial vs. marine)
 - Most prolific life forms
 - Burgess shale