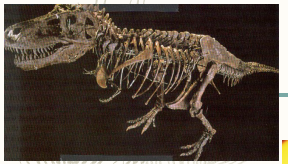
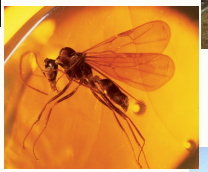
Chapter 12

The History of Life

Fossils & Ancient Life



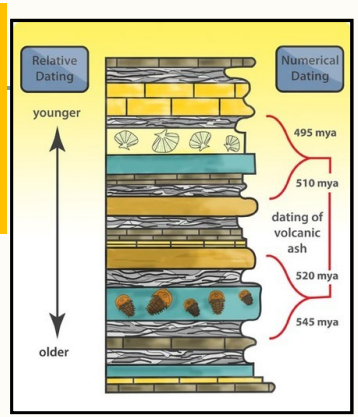
Tollund Man

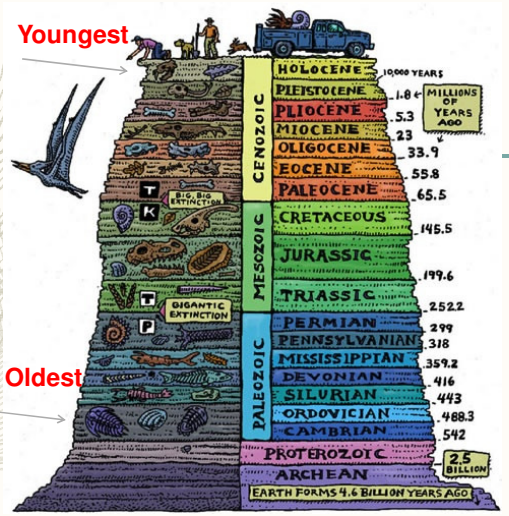


Burgess Shale Site

Interpreting Fossil Evidence

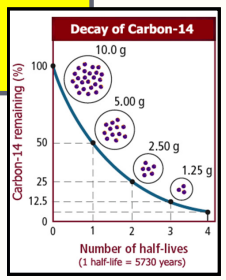
– Relative dating - determining the age of a fossil by comparing its placement with that of fossils in other layers





Interpreting Fossil Evidence

- Radioactive dating- technique using natural decay rate of unstable isotopes found in materials to calculate the age of materials.
  - Used to estimate fossil's actual or absolute age.
  - Used to determine age of the Earth
  - Isotope ^{14}C used in radiometric dating



- Half-life- amount of time it takes for half of the isotope to decay into a different element or its product isotope.

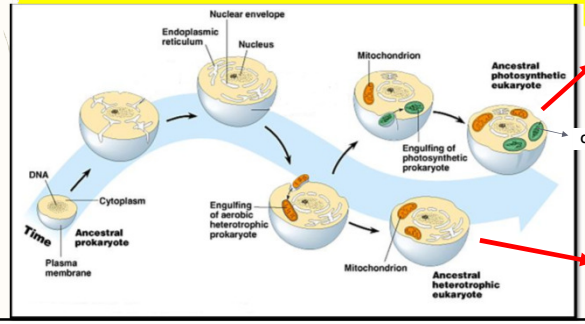
Formation of Earth

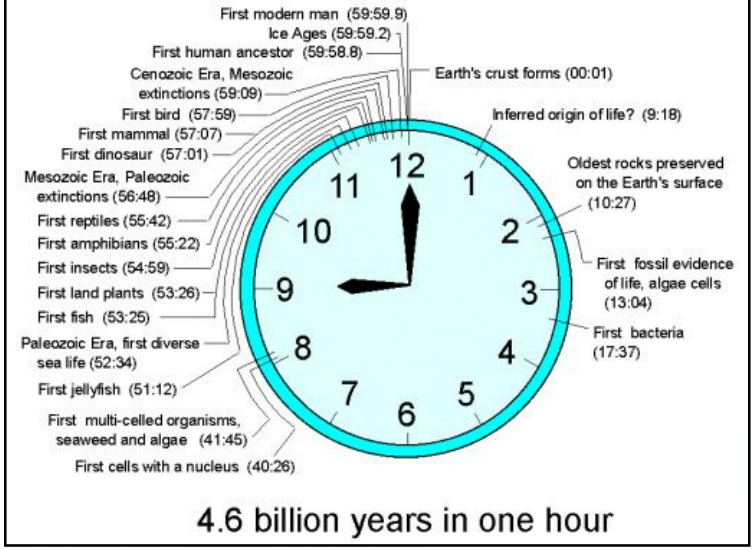
- Earth's early atmosphere probably contained hydrogen cyanide, carbon dioxide, carbon monoxide, nitrogen, hydrogen sulfide, & water.
- It was much hotter & there was little or no oxygen.

Origin of Eukaryotic Cells

Video

- Endosymbiotic theory - proposes that eukaryotic cells arose from living communities formed by prokaryotic organisms



Plants

Animals