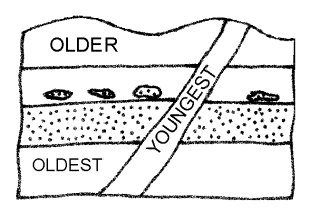
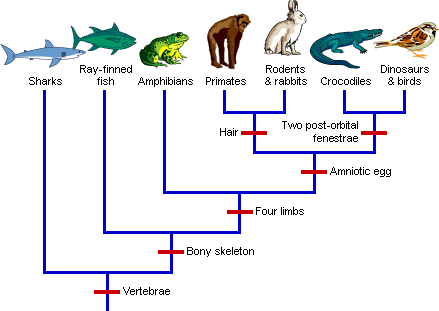
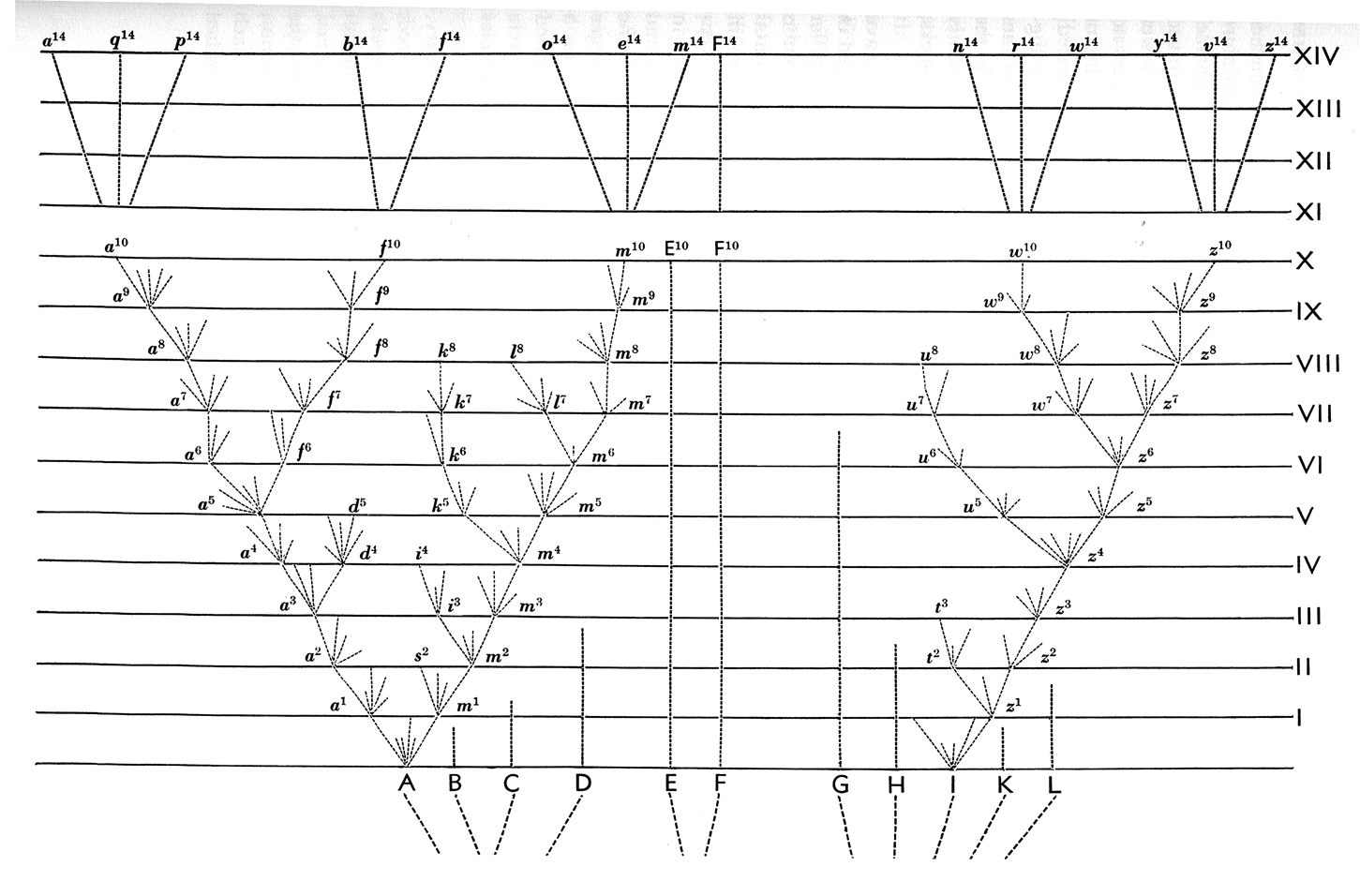
**EVOLUTION and CLASSIFICATION STUDY GUIDE**



* The earth is 4.6 Billion Years Old
* Relative Dating: We know the order of events, but not actual dates.
* Absolute Dating: We know dates. We find the dates by measuring half life.
* Half Life: The time required for the amount of radioactive material to decrease by one-half. KNOW HOW TO CALCULATE!
* Uniformitarianism: The same laws that govern our world governed the past.
* There is a lot of diversity and variety on earth!
* Cladograms or Phylogenetic Trees show evolutionary relationships. Know how to find common ancestors.
* 
* Know how to read a dichotomous or taxonomic key
* CLASSIFICATION:
* There are 6 kingdoms:
  + Prokaryotes:
    - Bacteria – one celled organisms; microscopic; no organelles
    - Archaebacteria: Oldest form of life. Live in extreme environments
  + Eukaryotes (separate organelles in their cells)
    - Protists – any eukaryotic organism that isn’t a plant, animal or fungi.
    - Plants
    - Fungi
    - Animals
* You can further separate organisms into the 7 levels of classification:
  + Kingdom
  + Phylum
  + Class
  + Order
  + Family
  + Genus
  + Species
* Organisms belonging to the same Kingdom are most DISSIMILAR (Fruit Fly and Monkey).
* Species are most SIMILAR.
* The Classification system has changed over time based on increased technology that has allowed us view more organisms etc.
* Carolus Linnaeus proposed Binomial Nomenclature: Each species has a two part name:
  + Genus species (Homo sapiens).
* Darwin had two main ideas:
  + Tree Thinking: Organisms do not change in one straight path; it looks like a family tree. Organisms are organized by STRUCTURE and function.
  + Natural Selection
    - Variation must already exist in the population.
    - There is a change in Environment (new predator; different food source etc.)
    - Organisms must survive their new environment
    - Those organisms pass on their genes to the next generation.
  + 
* **KNOW THE EVIDENCES FOR EVOLUTION WORKSHEET VERY WELL!!!!!**
* Know “Why The Theory of Evolution Matters”