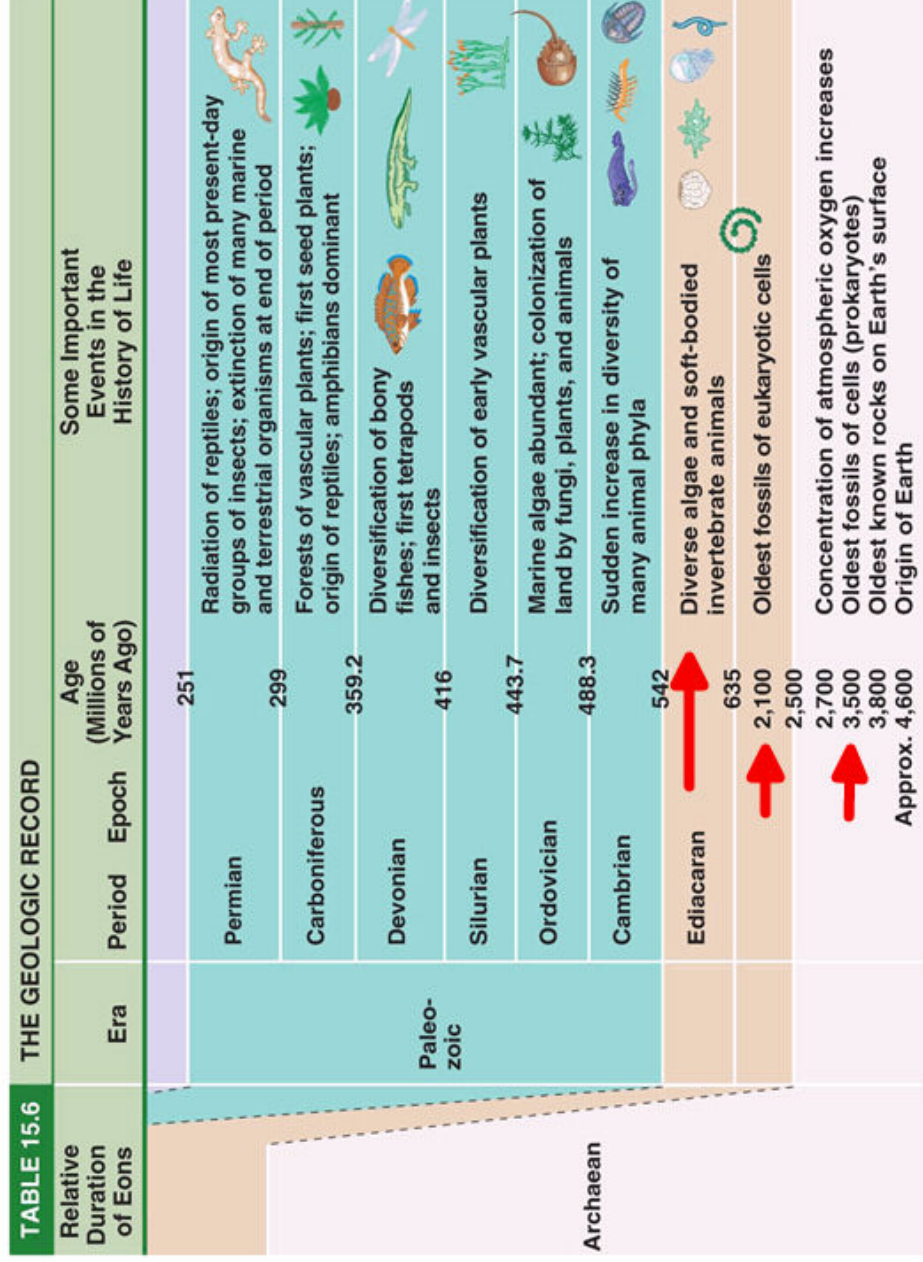
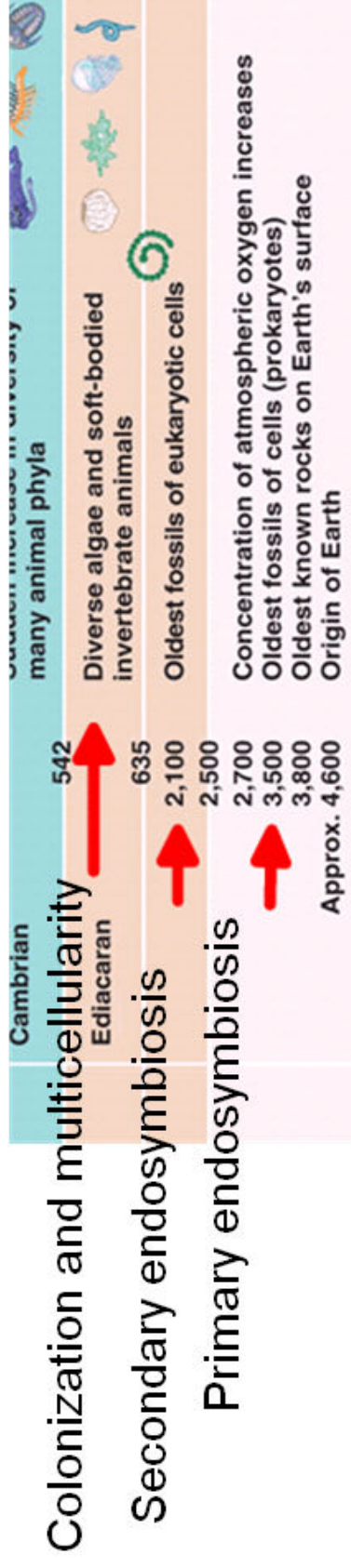


Protists...the "link" between prokaryotes and multicellularity

The evolutionary history of protists helps to explain thier diversity...and provides important modern day evidence of how the emergence of multicellular eukaryotes could have occurred

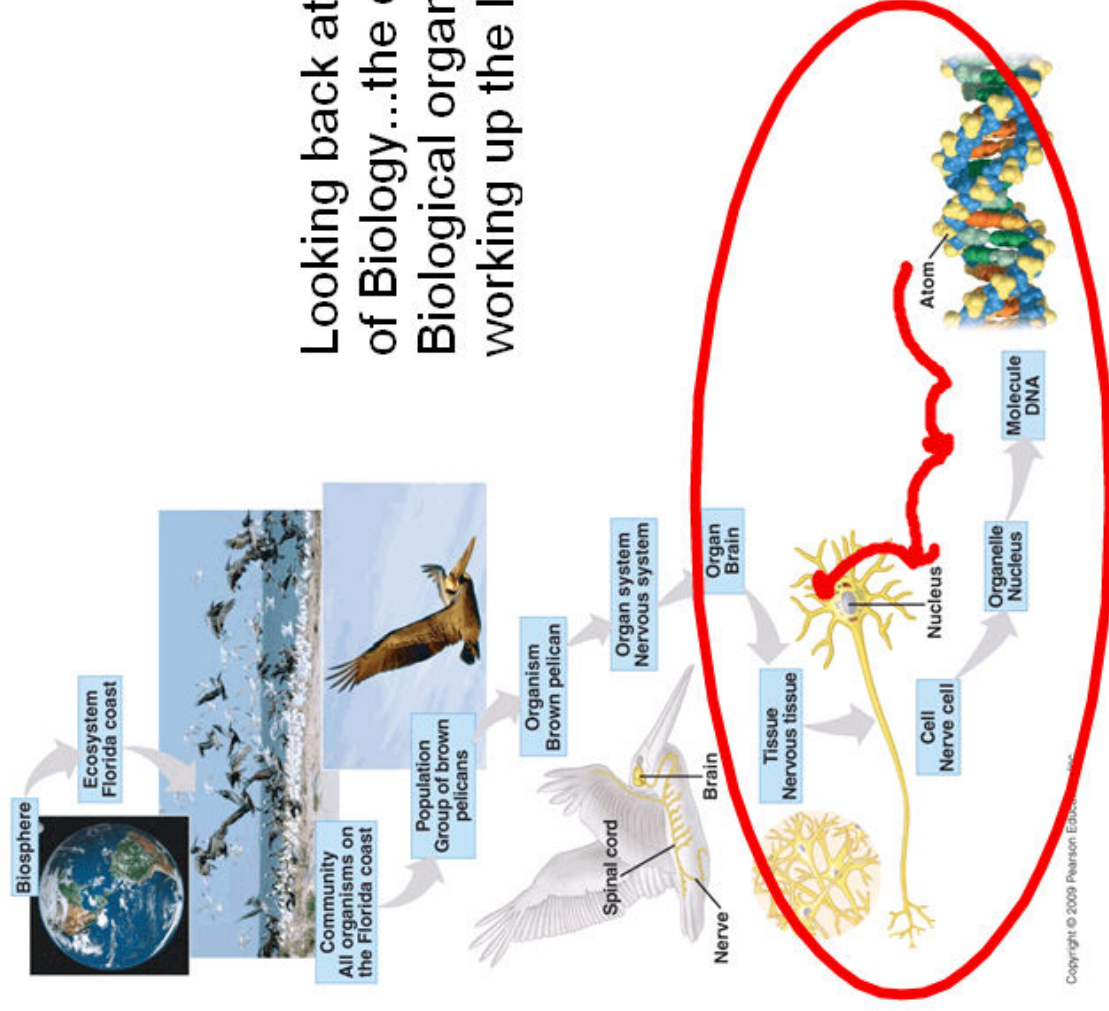


A probable sequence of increasing complexity:



primary endosymbiosis...prokaryotes develop symbiotic relationships and evolve into heterotrophic unicellular eukaryotes...these new eukaryotes can then also become hosts for autotrophic prokaryotes like algae to become autotrophic eukaryotes.

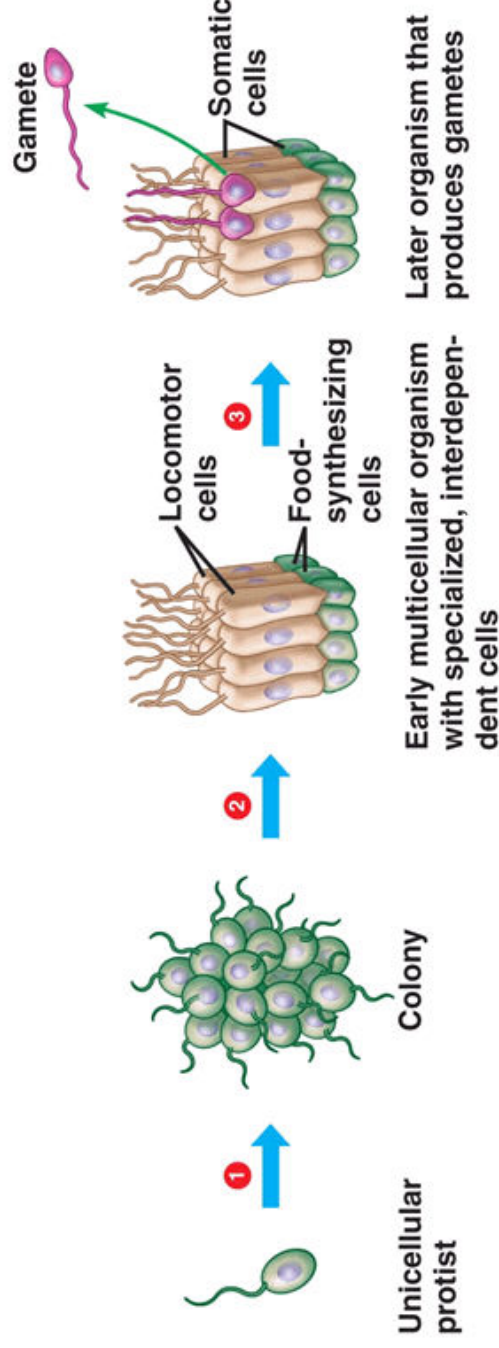
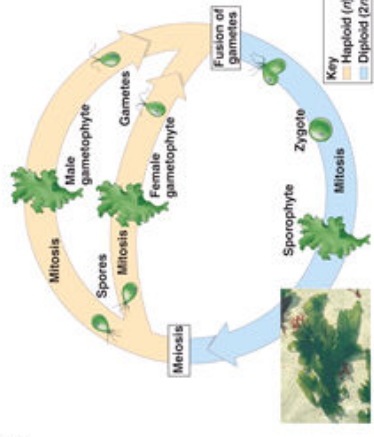
secondary endosymbiosis...eukaryotes develop endosymbiotic relationships with other eukaryotes...this then led to colonization and subsequent specialization of cell types.



Looking back at a unifying theme of Biology...the concept of Biological organization...we're working up the ladder.

Green Algae...Example of a "bridge" toward multicellularity

These protists are sometimes colonial and mostly multicellular and most green algae have complex life cycle which feature and "alternation of generations" between a haploid gametophyte and a diploid sporophyte (all plants do this as well)



Protists "Generalizations"

Protozoans: "animal like" protists which are generally described based on method of movement (flagellates, ciliates, amoebazoans (pseudopodia)

Algae: group of autotrophic usually multicellular protists

Seaweed: collection of large, multicellular brown, red, and green algae living in marine environments. All seaweeds are algae, not all algae are seaweeds.