

Unit Four : Evolution, Change, and Diversity

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define evolution....

“Changes in the characteristics of a population over many generations”

How does evolution happen ?

Variation (diversity between individuals in a population) exists in any population, and environmental factors act on that variation

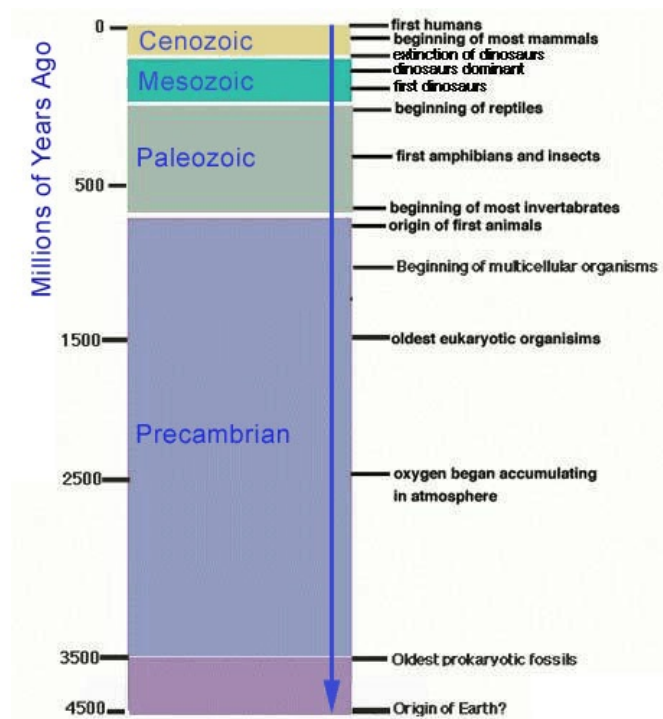
creatures well adapted / suited to a particular environment, because of their adaptations, survive to reproduce (Remember...adaptations are structures or behaviors creatures may have that improve their odds of surviving and reproducing under a certain set of conditions)

while those less well suited might not live long enough to reproduce as much, or maybe not reproduce at all.

The population’s “gene pool” (its collection of genes at one time), behaviors, or structures will change after many generations.

Now, evolutionary theory as it applies to life developing on Earth....it is a THEORY. Although based on a scientific approach to life’s greatest questions, with lots of supporting evidence, there is no way to remove all doubt from the story...so it’s a “theory”.

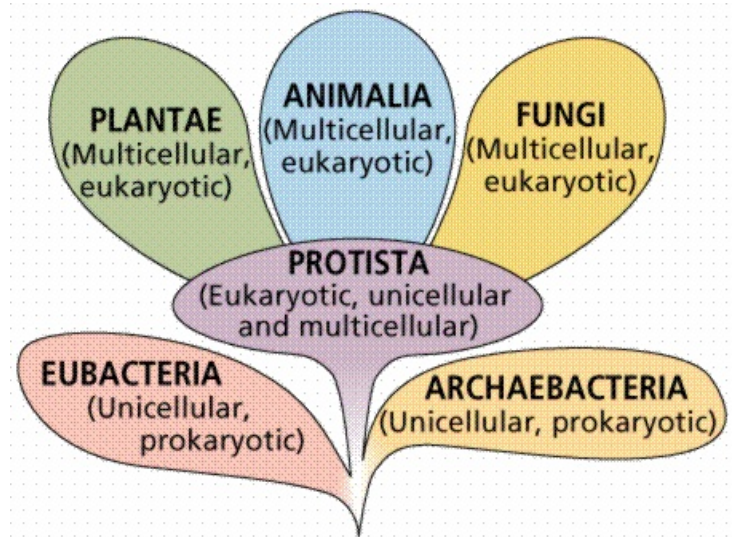
Historical time line based on evidence from rock sample ages and fossil discovery...



Based on fossil ages and body structure changes, we can infer a biological time line that describes the points in earth's history each dominant group existed, and what forms of life might have given rise to modern species.

At a Kingdom level, the vast majority of the scientific community believes...

Eukaryotic cells living together form multicellular creatures



evolution acted on these species to develop our diversity of modern species



specialized groups of eukaryotic cells formed the first multicellular creatures..the prototypes, or ancestral species



Groups of these may have survived better than on their own, forming the first eukaryotic cells



Life likely began as simple prokaryotic cells...the oldest and simplest life forms yet discovered

