

Essay on evolutionary biology

[Environment](#), [Animals](#)



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Question2

Isolating mechanisms is the reproductive features which inhibit species from fusing. They are mainly significant in the genetic species concept, whereby species of organisms are distinct by generative isolation, that is, an absence of gene mixture. They include:

- Premating isolating mechanisms – these are aspects that cause species to mate with their own kind (assortative mating), thus prevents the union of gametes to form a zygote. An example is a behavioral isolation technique where prospective mates meet, but select members of their own species.
- Post-mating isolating mechanisms –this involves issues regarding genomic mismatch, sterility hybrid or in-viability which facilitates varying grades of crossbreed sterility or fitness. E. g.: Zygotic mortality where the egg is inseminated, but zygote does not mature.

Question 3

Question 5

The main vertebrates were the jawless fish (Class Agnatha). The fish-like

creatures had firm bony platters that enclosed their figures and as their appellation suggests, they did not possess jaws. Moreover, these initial fish never possessed paired fins. The armored fish evolved during the Silurian period. They too lacked jaw bones but possessed paired fins.

Cartilaginous fish well identified as skates, rays, and sharks progressed and evolved thru the Silurian retro. Cartilaginous fish possess bones/skeletons which have a cartilage, and not bone. The moreover vary from other fish as they do not have lungs and swim bladders. The bony fish later on divided to form dual sets, one that progressed into a new fish, the other one that evolved/developed to a lobe-finned fish, fleshy-finned fish, and lungfish.

Amphibians were the main vertebrates to course out on to the terrestrial land. Primary amphibians reserved numerous fish-like features but throughout the Carboniferous period they changed and diversified.

The reptiles (Class reptilia), on the other hand ascended throughout the Carboniferous era and rapidly acquired position as the prevailing vertebrate of the land-dwelling creatures. The Reptiles came up with hard-shelled eggs which can be bred on dry land and their body had dry skin with scales which aided to preserve moisture and also served as defense mechanism.

The Birds (Class Aves) form an essential part of the chain, earlier in the course of the initial Jurassic, dual set groups of reptiles expanded the capability to fly and a single part the assemblies advanced to give rise to the birds in nature.

The Mammals, similar to birds, progressed or came from a cold-blooded (reptilian) origin. Mammals advanced and developed a 4-sectioned heart, do not lay eggs but alternatively give birth to living young ones, and also is

featured with hair.

Explanation: Most of the feature named above form an essential section of highlight on how the adaptation of the various vertebrates to adapt to the new environment. These were brought by the need for survival and competition from external environmental factors like bad and harsh weather conditions. The need to for security protected by scales and hard skin on various reptiles, thick hair covering layers on mammals to prevent cold weather conditions amid others.

Essay Questions

Question 1

The primates started developing in the early ages of evolution. They probably were prepared with comparatively good vision also referred to as binocular vision to aid in their proper sight of things, for example, see enemies from afar or be able to spot food or water. They adapted via the development of the hands and feet for mountaineering in trees, and also for performing locomotive activities when carrying their young ones, chasing or running from enemies' etc.

The Bipedal features came up since the apes were pushed off the trees due to lack of food. Their arms and developed legs aided in the locomotion and use of tools to work towards gaining food and covering distance respectively.

They were able to stand by remaining still on both legs where in most bipeds. The locomotive ability also featured hopping or jumping which involved the moving facilitated via a sequence of jumps with both feet moving together. They were able to run by placing one foot in front of

another.

The brain capacity of the human primates is proved by the height, skull and tooth structure of the excavated fossils from ages ago. They depict features that are identical to humans, these characteristics made them talented toolmakers and artists. The notion of Neanderthals living in caves and their practiced use of tools to make easier showcased the development of the human race.

These primate-like mammals persistence on the growth and development to facilitate the adaption to new environs like the need to use tools for making work easier, exemplified in human beings in their earlier stages of Homo sapiens growth and adaptation.

Question 2

The most essential part in human kind history is the knowledge and self-awareness gotten from the natural life on earth that we live in, in wide-ranging spectrum view. Possibly the extinction and disappearance of the dinosaurs is argued to have given rise to mammalian life. This intriguing methodology involving archeology and discovery of the evolution of man in general from the old ages of evolution explains the history of life for various species. This counts as one of the most significant events in the history of life and evolution.

The research carried in the invention of human history and them metamorphosis from the primates to the advanced and well-shaped Homo sapiens is a great step to showing that the limitless to the research carried out gave results. The fossils revealed during the era of human evolution study displays the different stages of human growth, the different features of

the diverse creatures and how they adapted to new environs to enable them survive and cope with the existing environmental conditions.

Additionally, the existence of life and the different creatures that exist on the face of the earth considerably offers as the significance of the multiple living organisms and how they bring positive attributes to life. For example, the existence of the food chain which explains the ecological balance in life. This is a significant part of history since the discovery of the various fossils by famous archeologist brought us closer to understanding the origin of the human race from the beginning time of evolution since it cemented the way for all variations in life, the growth of man intellectually, physically and emotionally.

References

Audesirk, T., Audesirk, G., & Byers, B. E. (2011). *Biology: Life on Earth with physiology*. San Francisco: Pearson.