Evolution Pre-assessment
Question 1

Present day giraffes are believed to have evolved from ancestors who resembled horses. There have been different theories about how this could have occurred. The two main ideas are listed below:

A. One proposed explanation is that the giraffes wanted to reach the leaves higher up on the trees, possibly because they were greener or no other species could eat them, so the short-necked ancestors stretched their necks trying to reach the high leaves, causing their necks to become longer. Over many generations of stretching the giraffes'necks became longer and longer until they became the current long-necked species.

B. Another explanation is that some ancestors of modern day giraffes had slightly longer necks than others. These giraffes were able to reach more food, allowing them to become stronger, live longer, and have more offspring. Over time the giraffes with slightly longer necks became the more prevalent group and when these giraffes had offspring, their offspring had even slightly longer necks, and so on until the current long-necked species came about.

Which of these theories do you agree with most? Explain your position in as much detail as possible.

Evolution Pre-assessment
Question 2

Students frequently learn about scientific laws, such as Newton's Laws of Motion, the Law of Inertia, or the Law of Gravity and they often learn about scientific theories, such as the Cell Theory, the Theory of Natural Selection, the Theory of Evolution, and the Big Bang Theory. The Theory of Evolution was first introduced by Charles Darwin in 1859. Scientists have a great deal of evidence to support it such as fossil evidence, DNA evidence, structural similarities in the anatomy of organisms, and similar amino acid sequences in proteins.

A. Explain your view of the difference between a scientific law and a scientific theory. How are they similar and how are they different?

B. Do you think the Theory of Evolution will ever become the Law of Evolution? Explain your answer.
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Evolution Pre-assessment

Question 3

A. What is natural selection?
B. How is it different from evolution?
C. Are natural selection and evolution considered fact or theory? Explain.