Instructional Unit Title: Adaptations of Life over Time

Science 7th Grade

The teacher may present videos and text resources so that students can consider the impact of the Theory of Evolution (Descent with Modifications) on modern scientific thought.



The teacher may provide various opportunities for students to explore the idea of selection based on favorable traits so that students can explain how genetic variation increases some individuals' probability of surviving and reproducing.



The teacher may introduce the idea of adaptations so that students can differentiate between physical and behavioral adaptations.



The teacher may provide scenarios involving organisms within various habitats so the students can predict the likelihood of an organisms' survival given its traits.



The teacher may provide students with evidence of physical and behavioral attributes so that students can evaluate human ancestry.



The teacher may provide animations and/or simulations so that the students can begin to understand how speciation occurs.



The teacher may introduce evidence for the theory of evolution (i.e., vestigial structures, embryology, DNA, homologous structures, fossils) so that students can infer evolutionary relationships among organisms in terms of similarities and differences.



Teacher may provide information detailing the theory of evolution so that students can justify the impact the environment has on driving evolution through natural selection.



The teacher may compare and contrast artificial and natural selection so that students can begin to understand how humans impact the trajectory of evolutionary changes (e.g., selective breeding, antibiotic resistance).



PERFORMANCE ASSESSMENT: You are a book publisher asked to create a series of books around planets and the life that inhabits these planets. You have already created the first book around the four different planets and their environments. Now you must create the sequel involving life on these planets. In your book you must design and create animals which will be perfectly suited to their environment on one of the new planets. Your animals must fit into the existing food chain-they cannot be the ultimate predator. You need to include adaptations and reasoning for those adaptations that address these issues:

how the animals are going to stay warm or cool

what they are going to eat

how they will get their food and water

how they find shelter

how they will protect themselves from their predators

Once your animals have been created, you must think about the 3rd book in your series which involves environmental changes on the planet and you must predict what future adaptations will need to occur with your animals and future populations within this new environment.

This unit was authored by a team of Colorado educators. The unit is intended to support teachers, schools, and districts as they make their own local decisions around the best instructional plans and practices for all students. To see the entire instructional unit sample with possible learning experiences, resources, differentiation, and assessments visit http://www.cde.state.co.us/standardsandinstruction/instructionalunitsamples.