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Curriculum Units by Fellows of the National Initiative
2016 Volume VI: Making Sense of Evolution

Understanding Earth's History and Geologic Time through Evolution

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Although we can imagine the Grand Canyon being carved by the Colorado River over millennia, it can be difficult for adults and students to picture and understand the considerable changes not only in geology but in the life forms that have existed. In schools it is not common to teach the concepts of geologic time and evolution in tandem. Prior to this unit, students should have studied basic geologic processes and laws, such as sedimentation and the law of superposition. This unit aims at helping middle school students better understand Earth's history, events, and environments through the lens of evolution. Topics in this unit include the geologic time scale, fossil formation, fossils and evolution, mechanisms of evolution, evolution and the environment, and a glance at an example organism, the woolly mammoth. Students will bring geology and evolution together through the construction of explanatory models, hands-on activities, fossil analysis, argumentation with evidence, and scientific literacy.

(Developed for Earth and Space Science, grade 8; recommended for Earth Science, grades 6-8)

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