

Example project

Title

Fossils and Our Past

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Grade/Grade Span

Fourth Grade

Summary

This unit explores how fossils tell us about past environments. It is linked to two regional assets, the HandsOn Discovery Center and the Gray Fossil Site. Students watch local news coverage about a fossil found at the site and visit both locations for a field trip. Back in the classroom, students connect the experiences and observations to the key phenomena of the science standard, that fossils tell us about past environments, and integrate math through measuring relevant aspects of the fossils.

DCI

- Math
- Science

Standards

Science

4.LS4.1 Obtain information about what a fossil is and ways a fossil can provide information about the past.

Math

4.MD.A.1 Measure and estimate to determine relative sizes of measurement units within a single system of measurement involving length, liquid volume, and mass/weight of objects using customary and metric units.

5Es

Engage. Students watch a video ([link](#)) from the Gray Fossil site about unearthing a mastodon skeleton. Students discuss their interests in dinosaurs and fossils with questions such as *“What is your favorite dinosaur? Imagine you found your favorite dinosaur’s fossils. How would this make you feel?”* The teachers guides students to begin thinking about fossils in our region and the environment in which those animals lived.

Explore. This activity entitled “Digging Up Our Past” links to the HandsOn Discovery Center exhibits Miocene Exhibit Hall and Saltville Paleontology Hall. The teacher will guide student observations in the exhibit hall with a set of questions aligned to the 3-Ds of the science standard (e.g., What is a fossil? What is the difference between a body fossil and a trace fossil? How do these fossils differ in size? What do these fossils tell us about the past animals that have been here?).

Explain. During the Explain, the teacher will connect the students’ experiences from the Engage and Explore to the core science and math content for the unit standards. The teacher will use concepts

maps to organize the big ideas and relevant vocabulary for each subject area. In science, the concept map focuses on how fossils can tell us about Earth's past, particularly the environment in which the plants and animals lived. The math graphic organizer summarizes how different types of measurements are taken with different tools and the units associated with each.

Elaborate. This activity is adapted from an existing activity from the Utah Education Network ([link](#)). Students examine numerous objects, pictures, and models and determine if the items are fossils or not. As much as possible, fossils from our region are used. Then with the fossils, students explain what each fossil tells us about the environment in which the organism lived. Students also take basic measurements of the fossils and record them.

Evaluate. For the Evaluate section of the project, students answer a series of questions aligned to Bloom's levels for the math and science content standards. Finally, students make claims supported by evidence about which objects are fossils and why from the Elaborate activity, and they link their evidence back to their observations of fossils from their time at the HandsOn Discovery Center.