

Then and Now – On Site Summary

First Grade

Scientists who study the past, try to put events in their proper order. As these scientists discuss events that happened in historical times, they often use dates or numbers however, as was discovered in the pre-visit activity, we do not always have to do so. Long before *geologists* (scientists who study the origin of the earth and the materials forming it) had the means to recognize and express time in numbers of years, they developed the geologic time scale. In this time scale, the earth's history is subdivided into eons, which are subdivided into eras, then into periods, and finally into epochs. This scale is known as the Relative Time Scale, and its subdivisions are in specific order based upon relative age relationships. This is different than Absolute Time, which is based on the numerical age of the fossil, or stone and is determined through radiometric dating methods.

In the pre-visit activity, students used a relative time scale in determining “oldest” to youngest” for their own time lines. In the on-site activity, the student’s focus will turn to absolute time and the concept of change over time.

The students will be working as paleontologists within the dig site. They will discover two organisms within the dig and they will work cooperatively in an attempt to reconstruct these two organisms. The students will be informed that one of the organisms is very, very old, from the Paleogene period, between 23 and 65 million years ago. The other organism is from our modern Anthropogene period which began about 2 million years ago and extends to the present. Through the inquiry process the students will make discoveries about the similarities and the differences of these two organisms and will ultimately come to the realization that these two organisms are related to each other, that in fact, the one organism is the *ancestor* of the other. From this discovery students will begin to understand that some of the organisms that were here before have died out and no longer exist, like the dinosaurs. On the other hand, there are a large number of organisms that have changed over time and though they appear vastly different, do still exist today.

TEKS CONNECTION:

Science TEKS, First Grade:

- 1.1 (A) – Students will demonstrate safe practices during field investigations.
- 1.2 (A) – Students will ask questions about organisms, objects, and events.
- 1.3 (C) – Students will gather information using simple equipment and tools to extend the senses.
- 1.5 (A) – Students will sort objects and events based on properties and patterns.
- 1.6 (A) – Students will sort organisms and objects according to their parts and characteristics.

Fun Facts

- *Paleo* means ancient.
- Most of the rocks exposed at the surface of the Earth are sedimentary – formed particles of older rocks that have been broken apart by water or wind.
- The oldest fossils are from rocks that were deposited about 3.5 billion years ago.
- The first abundant shell fossils occur in rocks that are about 570 million years old.

Above information adapted from, “Then and Now”, Elm Fork Education Center & Denton ISD, 1998.