CINCINNATI MUSEUM CENTER AT UNION TERMINAL

Museum of Natural History & Science
Gallery Guide for *The Ice Age*

The Ice Age allows students to step back in time to when this part of the United States was completely covered by ice in what scientists refer to as the Ice Age, specifically the Wisconsin Glacial Advance. Through exploration of the animals and their adaptations, as well as the geology behind these massive glaciers, students can get an in-depth and highly interactive appreciation for life as it was about 19,000 years ago, the time of the last Ice Age in the Tri-state.

Concepts: adaptation, coniferous forest, deciduous forest, dendrochronology, glacial advance, glacial geology, glacial retreat, glacier, paleoecology, paleontology, palynology, taiga, tundra

Background Information:
Through years of **glacial advances** and **glacial retreats**, the landscape as we know it has been formed. For an interactive glacial experiment, stop by the stream table and see what happens when the land is affected by glaciation. The last **glacier** to cover this part of the United States is called the Wisconsin Glacier and it began its recession about 19,000 years ago.

With the glacier receding, the animals had to learn to adapt to their new surroundings. For instance, instead of being a stark **tundra** with small plants, mostly hardy ferns, the environment changed to **taiga,** where plants such as spruce and fir trees, as found in a **coniferous forest**, scatter the landscape. With the glacier further receding the taiga gave way to the **deciduous forests** that we now call home.

It's hard to imagine what life would have been like some 19,000 years ago, but some scientists are researching to learn more about **adaptation**, the environment and even the geology behind the last Ice Age. Many scientists, called **paleoecologists**, are trying to recreate the landscape of the Ice Age. Working hand-in-hand with **paleontologists** as well as **palynologists**, who study pollen, and **glacial geologists**, who study the composition and movement of glaciers, much is being learned through research into the past to the time of the Ice Age. Using knowledge gained through research we have reconstructed our own Ice Age Trail. Our trail begins at Sharon Woods during the last Ice Age—19,000 years ago—and ends at Big Bone Lick State Park.

Vocabulary:
Adaptation – adjustment to environmental conditions and/or modification of an organism that makes it more fit for existence in its environment
Coniferous forest – those forests dominant in trees, mostly evergreen trees and shrubs, that keep their leaves or needles
Deciduous forest – those forests dominant in trees that do not keep their leaves for an entire year as they fall off at a certain stage of development in the life cycle.

Dendrochronology – the science of dating events and variations in environment in former periods by comparative study of growth rings in trees and aged wood

Glacial advance – when a mountain glacier's terminus extends farther down-valley than before; glacial advance also occurs when a glacier flows down-valley faster than the rate of ablation at its terminus

Glacial geology – the study of the composition and movement of glaciers, both past and present; often utilizing concepts of geomorphology

Glacial retreat – when the position of a mountain glacier's terminus is farther up-valley than before; glacial retreat occurs when a glacier abates more material at its terminus than it transports into that region

Glacier – a large body of ice moving slowly down a slope or valley or spreading outward on a land surface

Paleoecology – a branch of ecology that is concerned with the characteristics of ancient environments and with their relationships to ancient plants and animals

Paleontology – a science dealing with the life of past geological periods as known from fossil remains

Palynology – a branch of science dealing with pollen and spores

Taiga – a moist sub-arctic forest dominated by conifers, such as spruce and fir, that begins where the tundra ends

Tundra – a level or rolling treeless plain that is characteristic of arctic and sub-arctic regions, consists of black mucky soil with a permanently frozen subsoil, and has a dominant vegetation of mosses, lichens, herbs and dwarf shrubs

Focus Questions:

1. Utilizing the stream table, discuss the influence of glaciers on our landscape today. For further investigation examine the change in the course of the Ohio River, referred to before it set its final course, as the Teay's River.
2. Explore the flora and fauna of the Ice Age; how did they survive? What animals survived the Ice Age through adapting and which ones failed? Discuss the ways in which those animals that survived adapted to their new environment.
3. If we were to have another glacial advance, affecting Cincinnati and its surrounding areas, what are some ways that we, as humans, could adapt to survive such harsh conditions?