



Teachable Moments Guide: Mammoths & Mastodons

Grades K - 12

Duration

30-45 minutes

NGSS Alignment

DCIs

3-LS4-1, 3, 4

MS-LS4-1,2

HS-LS4-1

S+E Practices

1,3, 4

Crosscutting Concepts

1, 2, 7

CA EP&Cs

III.a

Materials for Museum Visit:

Paleontology Field Journal

Clipboards

Pencils

Section 1 | Stomping Grounds: Mammoths and Mastodons

Highlight Pieces: American Mastodon & Columbian Mammoth Articulated Skeletons

Field Journal Activity: Next to the life-sized model of the Columbian Mammoth is a mural depicting life in North America during the last Ice Age. Allow students time to observe the mural and then guide your students' observations with the following questions: *What do you see in this environment? What is happening in this mural? Is there anything here that surprises you? Do you think anything is missing from this image?*

MS/HS Extension: How does this mural demonstrate the biodiversity of Ice Age Los Angeles? Ask your students to look for other murals in the museum that also depict Ice Age biodiversity and have them compare these images.

Section 2 | Pushed to Their Limits: Mammoths in Miniature

Highlight Pieces: Pygmy Mammoth Model & Lower Jaw

How were pygmy mammoths better adapted to changing climate than larger mammoth species?

Field Journal Activity: Invite your students to examine the lower jaws of the Columbian mammoth and the pygmy mammoth on display. Using their Paleontology Field Journals, have students compare the similarities and differences or draw some of their reflections.

MS/HS Extension: Are there other examples of animals adapting to their environment by adapting their size? How would this help other animal species?

Section 3 | Using Ice Age Fossils to Inform the Future

Highlight Piece: Fossil Lab & Zed's Tusk

What kinds of tools do they see our scientists using? Do they recognize any of these tools?

MS/HS Extension: Why do microfossils provide a more comprehensive understanding of our ecosystem than the fossils of megafauna such as mammoths?

Section 4 | Trunks & Tusks: Meet the Proboscideans

Highlight Pieces: Proboscidean Family Tree & Lyuba

Ask your students to use their finger to trace the relationship between two proboscideans of their choice, or print copies of the family tree for students to explore (p. 9). Are there any proboscideans still living today?

Ask your students, what similarities or differences do they notice between a woolly mammoth like Lyuba and a Columbian Mammoth like Zed?

MS/HS Extension: Why/how is Lyuba so well preserved?