

Discovery Guide

Bones in our backyard: Discovering the Bristle Mammoth

Grades 6-8

Welcome to the University of Michigan Museum of Natural History!

These guides are intended to focus student attention and start conversations about topics in natural history.

Pre-visit tips

Please make copies of this guide for your students before coming to the museum. This will ensure that the proper number of guides are available for your group.

Bring pencils and clip boards or notebooks to write on.

Please divide your students into groups of about 5 to 10 students.

Provide the chaperones with a copy of the answer guide(s).

While Visiting

Encourage questions! If you cannot find the answer, ask the student host.

Encourage touch! Children learn best when as many senses as possible are engaged in the learning process. Please look at, listen to, and even touch items that are not behind barriers.

Encourage discovery! Remind students that it is not a race but an adventure of discovery.



In the Classroom

The following questions and prompts are designed to promote in-classroom discussion and writing across the curriculum.

Questions?

Please visit our website at www.ummnh.org or call us at **734.764.0480**.

Answer Guide

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1. The jaw fragment is found in the center display case on the side closest to the head/tusk display. Bristle had two large molars- one on each side of the jaw that were flat with ridges. Mammoths ate plants such as grass and wildflowers and would grind their teeth back and forth. Scientists can look at how much wear is on the teeth and this helps us determine how old the animal was when it died.

2. These fossils are at least 13,000 years old and maybe even closer to 15,000 years old. We determine age by carbon dating the bones and the debris found at the same soil layer as the bones. Mammoths lived in Michigan between 15,000-10,000 years ago.

3. We only found the skull, tusks, vertebrae, and some ribs at the site; none of the legs were found. Answers may vary for why we didn't find a complete skeleton, but researchers analyzing the Bristle Mammoth remains think humans ate these parts leaving the rest stored in a pond to be eaten at a later date.

4. Reasons we think humans interacted with this animal are: (1) its vertebrae were found in sections and (2) we found large rocks at the site. Since the vertebrae were found articulated in sections, this suggests humans butchered the meat in sections and stored the sections in the bottom of a pond, weighing the meat down with large rocks. Answers may vary, but some tools that could be used to kill, butcher, and eat mammoths include: knives, spearpoints, large rocks, fire.

5. (1) Overhunting by humans, where humans hunted too many mammoths too quickly not allowing their populations to recover. (2) Climate change at the end of the last Ice Age could have led to a lack of food necessary for their survival.

6. Leg 1 is from a mastodon (it has a thicker femur and is shorter) and Leg 2 is from a mammoth (it has a slimmer femur and is longer).

7. The Bristle Mammoth is male. Scientists think this because of the size of the bones. Scientists estimate how old the mammoth was when it died by looking at the wear on the molars, as well as analyzing tusk growth rings, which helps us determine age similar to how tree rings can tell us the age of a tree.

8. Mammoths and mastodons both ate plants, lived in prehistoric times, were hunted by humans, went extinct after the last ice age, had tusks, and had fur. Mammoths had flat molars with ridges, grinded their food, and ate grasses, while mastodons had teeth with large cusps and ate twigs and shrubs. Mammoths had a larger curve in their tusks, while mastodons' tusks were straighter. Mammoths were taller and mastodons were shorter and stockier.