

Discovery Guide

Prehistoric Life

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. When the tree was alive, the wood would have looked like ordinary wood. But as the wood fossilized, minerals that contained iron oxide seeped into the log, petrifying it. The iron oxide is why the fossilized wood appear to have streaks of different colors.
2. A trace fossil is a fossil that was created by a living thing, not the living thing itself. Trace fossils can tell scientists a lot about the animals that left them. Footprints in particular are helpful because they can tell how big and heavy the animal was, whether it traveled with company, and even in what direction it was going!
3. Amber is fossilized tree resin. Amber is important to scientists because sometimes part of a plant or animal will get stuck in amber, and tells scientists what types of animals lived thousands or even millions of years ago. This helps scientists make guesses about what the climate and the diversity of life was like, then.
4. **Sabertooth cat, *Homo sapiens*.** Both humans and sabertooth were a mastodon's primary predators. *T. rex* and *Menoceras* were both extinct by the time of the mastodons.
5. Scientists have theorized that *Deinonychus* traveled in a pack. Traveling this way would have offered many advantages to *Deinonychus*, since it went after prey that was larger than it was. Numbers outweigh size, and would make killing large animals more efficient.



6. *Allosaurus*, with its dagger-like teeth and a massive stride, was a very successful predator - it was much more successful at hunting than any human could be.

But when our scientists put up our *Allosaurus*, they made a mistake. The heavy tail is dragging on the ground and the legs are splayed out. If *Allosaurus* stood like this, he'd be a very slow hunter. Now we know that *Allosaurus* and other dinosaurs held their tails straight out behind them. The feet should be positioned directly under the body.

7. These species are quite similar. Over time, the distinct "legs" of *Basilosaurus* shrank until they became flippers similar to bottlenose dolphin's flippers. Tooth shape changed noticeably; as diet changed from eating large fish (*Basilosaurus*) to eating smaller fish such as tuna (bottlenose dolphin) the teeth became less serrated. Body shape, while shrinking dramatically in size, is very similar across the species. They share a barrel-chest, a wedge head and the tail comes to a sloping point, where the back flippers begin.

8. *Tyrannosaurus rex* should be at the top of the food web. *Deinonychus* should be next, then *Edmontosaurus* and *Anchiaceratops*, with sycamore tree leaves at the bottom.