

OKLAHOMA ROCKS!

Fossils & Dinosaurs: Oklahoma's Hidden Finds

Oklahoma Fossils

The majority of fossils in Oklahoma originally were plants and animals that lived in or near shallow tropical seas. These seas were common during the Cambrian through Pennsylvanian periods and covered most of the area of what is now Oklahoma. Fossils of marine invertebrates representing this early history can be found in sedimentary limestone formations in the eastern half and north-central parts of the state.

Some of the more common fossils found in the state are marine invertebrates such as corals, bryozoans (animals that often look like twigs), brachiopods (bivalved shells that resemble clams), cephalopods (squid-like animals with a shell), crinoids (sea lilies), and snails or gastropods. Aside from marine fossils, plant fossils including leaf and stem impressions also are common in Pennsylvanian rocks of eastern Oklahoma. However, they are difficult to find in the Ouachita Mountains.

Fossil Formation

The most common place to find fossils is in sedimentary rocks, like sandstones, shales and limestones. Sedimentary rocks form from the consolidation of loose sediment such as sand, silt or mud, which accumulates in layers on the Earth's surface.

Other types of rocks include igneous rocks, like granite or rhyolite, which form from the cooling of molten lava, and metamorphic rocks, like slate or gneiss (pronounced "nice"), which form under extreme heat and pressure deep within the Earth. Fossils are rarely found in these igneous or metamorphic rocks because of the high temperatures and pressures involved in forming them.

Sedimentary rocks, on the other hand, form at or near the surface of the Earth, which is where most animals and plants live. Once an animal dies, it may become buried by the sediment and become preserved. The grains of sediment eventually become cemented together, which transforms the mud and sands into sedimentary rock and the animal into a fossil.

Activities:

1. Using the geologic timescale below, what are some of the fossils you might expect to find in rocks from each time period? List the fossil you might find and the first period it could come from.

2. Use your geo-detective sleuthing skills to find the missing information below about specific types of fossils.

a) The most common Paleozoic fossils in Oklahoma are _____.

b) Large, coiled invertebrate fossils of Cretaceous age called _____ can be collected near Lake Texoma.

c) _____ are extinct invertebrate fossils found in lower Paleozoic rocks in the Arbuckle Mountains that resemble saw blades.

d) Commonly found in Pennsylvanian and Permian rocks of north-central Oklahoma are small football shaped fossils called _____.

e) Native Americans in Oklahoma collected _____ to make ceremonial necklaces and bracelets.

Era	Period	Major biologic events	Millions of years ago
CENOZOIC	Quaternary	First humans	0
	Tertiary	Dinosaurs extinct/ mammals become abundant	1.65
	Cretaceous	First flowering plants	65
MESOZOIC	Jurassic	First birds	140
	Triassic	First dinosaurs/ first mammals	200
	Permian	Mass extinction of most marine invertebrates	250
PALEOZOIC	Pennsylvanian	Major coal-forming swamps	290
	Mississippian	First reptiles	330
	Devonian	First amphibians	365
	Silurian	Early land plants	405
	Ordovician	Early fish	425
	Cambrian	Trilobites/shelled animals	500
	PRECAMBRIAN	Early life-forms without shells	570