

Dinosaur Fossils

by Dr. Alvin Granowsky

We have learned all that we know about dinosaurs from their fossils. A fossil is what is left of a plant or an animal that lived long ago.

Fossils can be leaves, shells, eggs, or skeletons. Some fossils are hardened tracks or footprints left by a moving animal.

When a plant or animal dies, it can become covered with mud or sand. As time goes by, the plant or animal becomes covered by many layers of mud and sand. After thousands of years, the bottom layers harden into rock. The dead plant or animal also hardens into rock. This is how fossils are formed.

Any plant or animal can become a fossil. Animal fossils are usually hard parts of the body such as teeth, bones, or shells.

Sometimes an animal's whole body is frozen in ice or covered very quickly with river mud. Then scientists can study the skin and other soft parts of an animal's body.

Sometimes fossils are found by chance. Fossils may be uncovered by workers digging a well or roadway.

Most often, scientists who study fossils have to spend a long time looking for them. These scientists are called paleontologists.

Fossils found in soft ground are the easiest ones to collect. Paleontologists can dig them out with a shovel or by hand.

Fossils have to be loosened slowly from rocks. Scientists use chisels, hammers, or picks to remove the fossils. They work carefully to protect the fossils.

Then the hardest work begins. Most fossils are found in pieces. The bones are like the pieces of a puzzle. Putting the bones together is difficult when some of the pieces are missing.

What if some of the fossil pieces don't belong? That often happens when the fossils of many animals are found in the same place.

Sometimes scientists make mistakes when they work with fossils. At one time, they thought the thumb-claw of an Iguanodon was a horn on its nose.

But scientists learn from their mistakes. They work until they find the right way to put the bones together. The skeletons are placed in museums so that everyone can learn about dinosaurs.

Scientists must learn about dinosaurs from fossils because dinosaurs are extinct. When scientists say that dinosaurs are extinct they mean that dinosaurs are not alive today.

For a long time, we didn't know that dinosaurs had ever lived. Then dinosaur fossils were found. Scientists learned that dinosaurs had once lived all over Earth.

When the first dinosaur fossils were found, people wondered, "What kind of bone is this?"

People saw how big the bones were. They asked, "Could these be the bones of an elephant?"

Putting together dinosaur bones was slow work. Scientists tried putting the bones together in different ways.

If some of a dinosaur's bones were missing, the job was even slower. Sometimes scientists had to guess what the missing parts looked like.

At one time, scientists thought they had discovered a new dinosaur called a Polacanthus. Scientists had only part of the skeleton, but they tried to imagine what a Polacanthus looked like. They thought that the Polacanthus had a small head and spikes along its back.

But later, scientists found other bones that belonged to the same skeleton. With the new bones, scientists could see that the skeleton was from a Hylaeosaurus.

Sometimes scientists find many dinosaur bones in one place. In Wyoming, scientists discovered several complete skeletons of Camptosaurus dinosaurs. That made it easier to describe a Camptosaurus. After studying the skeletons, scientists decided that the Camptosaurus grew as long as 23 feet.

Dinosaur fossils have been found in many places around the world. That is how we know that dinosaurs once lived all over Earth. This map shows where the fossils of some kinds of dinosaurs were found.

Dinosaur bones show us that there were dinosaurs of all shapes and sizes. The skeletons scientists put together help us see how different each kind of dinosaur was.

The skeleton of a Tyrannosaurus Rex stands on two legs and has big, sharp teeth. The skeleton of an Apatosaurus shows its long, thin neck and tail.

New fossils are still being found today. Someday you could be a scientist and put together a dinosaur skeleton.