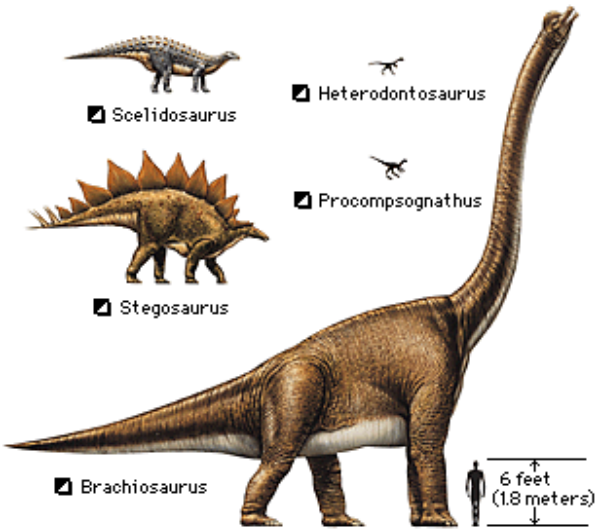
Dinosaurs



Dinosaur, an extinct reptile that lived on land. Dinosaurs lived from about 230,000,000 to 65,000,000 years ago, during the Mesozoic Era. Fossil skeletons and other fossil remains of dinosaurs have been found on every continent. Dinosaur fossils are especially plentiful in the United States, particularly in Colorado, Montana, Wyoming, New Mexico, and Utah. Other extinct animals that lived at the same time as the dinosaurs include the pterosaurs, which were flying reptiles, and the plesiosaurs and ichthyosaurs, which lived in water.

Dinosaurs varied greatly in size and shape.

Scientists disagree as to whether dinosaurs were, like most other reptiles, cold-blooded or, like birds and mammals, warm-blooded. (Cold-blooded animals have a body temperature that varies with the temperature of their surroundings; warm-blooded animals can maintain a constant body temperature.)

The word dinosaur means “terrible lizard,” but not all dinosaurs were large and ferocious. Some were about one foot (30 cm) long. The largest dinosaurs were more than 80 feet (24 m) long and weighed more than 80 tons (72,600 kg). About 800 species have been identified.

Dinosaurs of the Jurassic Period lived roughly 150 million to 200 million years ago.

Some dinosaurs lived in herds, foraged for plants, walked on all fours, and were slow and lumbering. Other dinosaurs lived alone, hunted other animals, walked on their hind legs, and were fast and agile. Many fossilized dinosaur eggs have been found. Scientists believe that most types of dinosaurs laid eggs and that some dinosaurs, unlike most reptiles today, defended their recently hatched young and brought food to them.

Some dinosaurs had small, simple brains; others, especially those that hunted, had large, complex brains. Large dinosaurs probably had specialized nerve centers in the pelvic and

shoulder regions of the spinal cord to help control the movements of the limbs and tail. Large dinosaurs probably had very powerful hearts and efficient lungs to supply the body with blood and oxygen.

Dinosaurs developed from a group of primitive reptiles, the thecodonts. Herrerasaurus is one of the earliest known dinosaurs, having lived 230,000,000 years ago. Fossil bones, found in Argentina, reveal that it was about six feet (1.8 m) long and weighed about 300 pounds (136 kg). Coelophysis lived about 215,000,000 years ago in what is now New Mexico. It was about eight feet (2.4 m) long and weighed about 50 pounds (23 kg).

Why Dinosaurs Became Extinct

Dinosaurs were extinct for millions of years before humans appeared. There is no complete explanation for why the dinosaurs became extinct. Among the many theories that have been proposed for the extinction are the following: (1) dinosaurs evolved such awkward bodies that they could not breed; (2) infectious diseases wiped out the dinosaurs; (3) small mammals fed on dinosaur eggs; and (4) sea levels dropped, creating land bridges that allowed dinosaurs previously separated to invade each other's territory, upsetting the balanced ecological relationships that existed between species. Most of these explanations fail to consider that the dinosaurs were well adapted to their environment, living successfully for millions of years, and that many other creatures became extinct at about the same time as the dinosaurs.

The most likely explanation for the extinction of the dinosaurs is that there was some type of drastic global change, to which the dinosaurs were extremely vulnerable. Such a change could have resulted from a catastrophe that affected the climate and vegetation, reducing the food supply, or decreased the oxygen concentration of the atmosphere. Some scientists believe that the dinosaurs had already been dying off gradually (possibly for some of the reasons listed in the preceding paragraph) and the catastrophe greatly accelerated their decline.

Scientists have proposed several theories to describe how such a global catastrophe might have occurred, including: (1) an extremely large object from space crashed into the earth, producing an explosion that would have created immense clouds of dust and ignited vast forest fires; (2) massive volcanic eruptions ignited fires and emitted volcanic gases and ash; and (3) a combination of the first two theories---that is, an object from space hit a weak spot in the earth's crust, causing violent volcanic eruptions. The clouds of dust or ash resulting from these catastrophes would have blocked out sunlight for months or years, chilling the land and killing plants. The dinosaurs and certain other species would have died from a lack of food and warmth.

In 1991, scientists discovered evidence in the Yucatán of a very large crater dating from the time the dinosaurs became extinct. The crater, which is now filled in and buried, was probably formed by the impact of a comet or asteroid. Many scientists believe this impact could have produced a global catastrophe leading to the dinosaurs' extinction.