

Basic Biology Series
ANIMALS OF LONG AGO

NAME _____ SCHOOL _____

DATE STARTED _____ DATE COMPLETED _____

PREREQUISITE: Animal Kingdom or a general knowledge of different types of animals.

HOW TO DO THIS COURSE: Do the steps one at a time, in order. When you finish a step, put your initials and the date on the sign-off line on the right. A split line means to get a pass (and an initial) from another student (or your supervisor if it says that). A * means get a checkout. Essays are turned in to the supervisor.

PURPOSE: Learn what dinosaurs were and how we can know about them.

ESTIMATED TIME: 6 hours.

MATERIALS NEEDED FOR THIS COURSE _____

A book with lots of pictures of different kinds of dinosaurs, such as: *Dinosaurs* by Gail Gibbons, Holiday House (preschool–grade 3), *Golden Guide to Dinosaurs and Fossils*, Golden Books or *Peterson's First Guide to Dinosaurs*, Houghton Mifflin; a book with lots of pictures of fossils (if not in the guide).

Newsprint or butcher paper, a petrified fossil, tray or large pan, a trace fossil showing a print or cast, paints and brush or markers, colored pencils.

For course step #C5: 2 bowls with flat bottoms or pie plates, petroleum jelly, watercolors and brush, aluminum foil, plaster of Paris, a measuring cup, some animal and plant parts (such as leaves, nuts, small bones, shell), something to mix plaster in, modeling clay, small toy animals.

Heron text-pack with these Data Sheets:

1363	1365	1366	1367	1372	1368
1369	1370	1371			

Exams: 4183, 6991 (review)

A. DINOSAURS

- *1. READ: Data Sheet #1364 Our Changing Earth. _____
2. DEMONSTRATE: Draw a picture of what you think it looked like on Earth before there were houses, cars, roads, and all the other things people have built. Show it to another student. Then give it to your supervisor. _____
3. ESSAY: Write down what you think would happen now if it rained almost every day for many years like it did long ago. Turn this in to the supervisor. _____
- *4. READ: Data Sheet #1365 Dinosaurs. _____

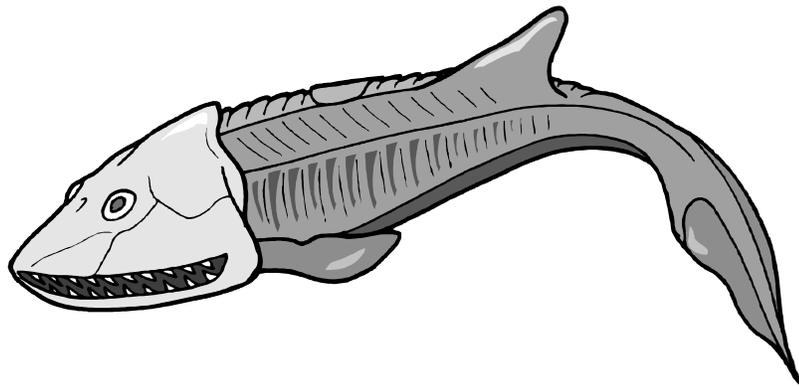
OUR CHANGING EARTH

The Earth is very, very old. The Earth is about four-and-a-half billion (4,500,000,000) years old. To get an idea how long a time this is, think of counting up to that number, saying one number every second. It would take you over a hundred *years* just to count up that high, even if you counted without stopping!

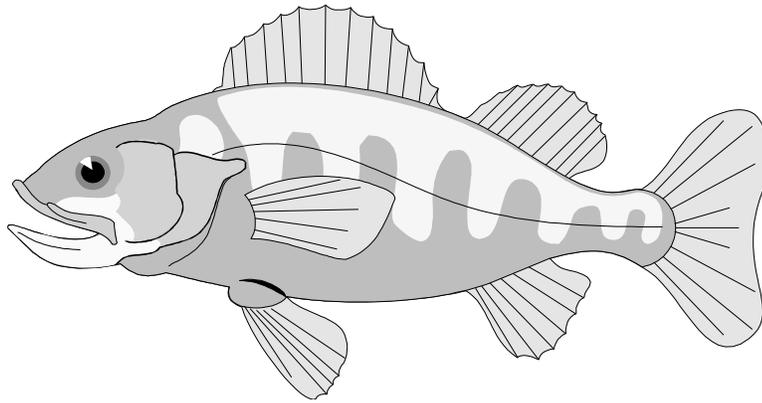
During all this time the Earth has not stayed the same. For many, many years the Earth was very hot and it never rained. For about the first half of its age (two billion years), there was probably no life on Earth at all.

Then the Earth cooled off and for many, many years it rained almost every day! During this time living things began to develop. At other times, for many, many years, most of the Earth was covered with ice.

You can see the Earth has changed a lot! The Earth has changed and the animals living on Earth have changed, too. Most animals today don't look the same as the animals that lived a long, long time ago.



a fish from very long ago



a fish of today

Over many, many years lots of different kinds of animals have lived on Earth. But the Earth has changed and many of the plants and animals from the past are no longer living. It got too hot or too cold or too wet or too dry for them. Some plants stopped growing, so some animals had nothing left to eat, and the animals died off. When all of the animals of one kind die, we say that kind of animal is “**extinct**.”

There are many kinds of animals alive today. Many of them came from older kinds of animals that aren't living now. The kinds of animals that live today survived because they found ways to change when the Earth changed. Usually animals didn't change all of a sudden, like magic. They changed slowly over many, many, many years—parent to baby, parent to baby. These changes made it possible for them to stay alive on the changing Earth.

Because the Earth is so old, and has changed so much, it is hard to find out what it was really like long ago. One way to find out is to dig in the ground and see what is buried there. Sometimes the bones of animals that lived long ago are found this way. People can try to figure out from these bones what the animals looked like.

5 November 1976 Revised 20 May 1997
© 1997, Northwest Research, Inc.
ALL RIGHTS RESERVED

DINOSAURS

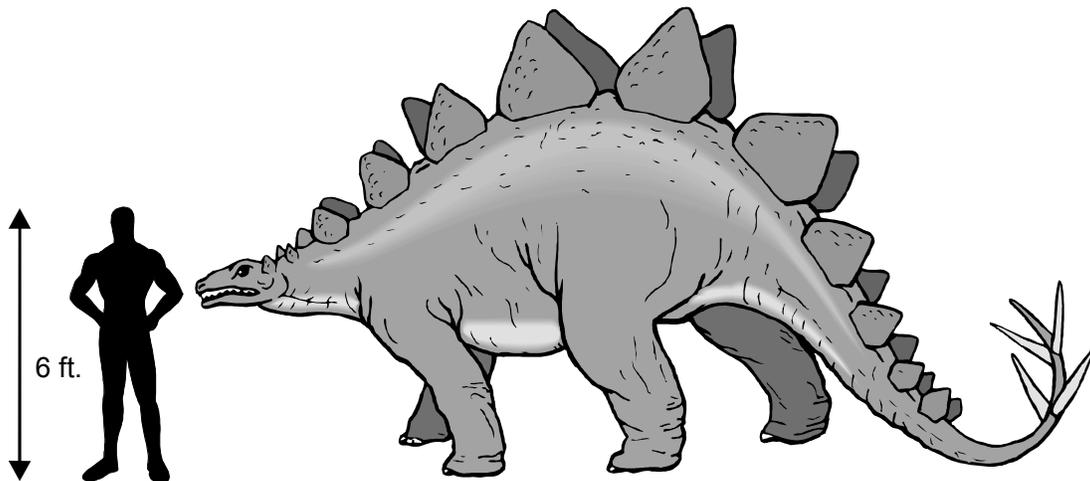
Dinosaurs are a kind of animal that lived long ago. Dinosaurs became extinct about 70 million years ago, but they are fun to learn about.

Dinosaur means “terrible lizard,” but most dinosaurs weren’t terrible, and they weren’t really lizards either! The man who gave them the name had some bones from three big dinosaurs. He thought they might be like lizards.

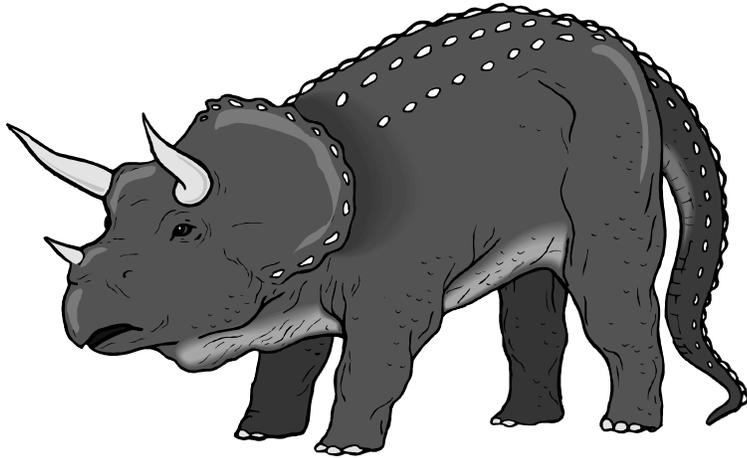
“Dinosaur” is now the name for a large group of different reptiles that once lived on Earth. Reptiles are a class of animals that have scales or plates on their bodies. They have four legs and they hatch from eggs.

Some dinosaurs were huge—bigger than fifteen elephants. Others were smaller than a chicken. Most of the dinosaurs ate plants. Some of the plant-eaters grazed in herds the way cows and deer do today. Some dinosaurs were meat-eaters and hunted alone or in packs. All dinosaurs seem to have lived on land, but some liked to go into the swamps, marshes and lakes for food and water.

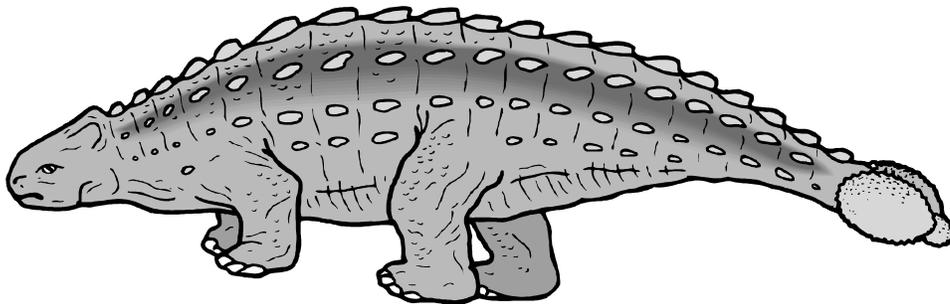
Here are pictures of some different kinds of dinosaurs:



stegosaurus



triceratops



ankylosaurus

5 November 1976 Revised 20 May 1997
© 1997, Northwest Research, Inc.
ALL RIGHTS RESERVED