

The ESL SCIENCE Book

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Dinosaurs

1 The word dinosaur is Greek for “terrible lizard” and for many people the term suggests huge creatures with horns, sharp teeth and long tails. But believe it or not, some of the first dinosaurs, called thecodonts, were no bigger than turkeys. Thecodonts lived over 200 million years ago.

2 It took millions of years but dinosaurs eventually grew larger and divided into two categories: carnivores, or meat-eaters, and herbivores, plant-eaters. The plant-eaters lived near warm swampy areas that provided lush vegetation and an abundant supply of plants to eat. The Apatosaurus species was 30 feet (9 meters) tall and 90 feet (27.5 meters) long from head to tail.

3 The largest meat-eating dinosaur was

Tyrannosaurus Rex. At 45 feet (14 meters) long and 20 feet (6 meters) tall, with eight-inch dagger-like teeth, the Tyrannosaurus was the worst enemy of the plant-eating dinosaurs. With its long, powerful hind legs and sharp, curved claws, the T-Rex would hide near a swamp and attack any plant-eating dinosaur that came near the water to drink.

4 It is not known how all dinosaurs reproduced, though it is generally accepted that some dinosaurs gave birth by laying eggs. Fossil eggs and egg fragments have been found in quite a few places around the world.

5 Dinosaurs prospered and ruled the earth for 150 million years. Scientists believe that over millions of years their

numbers declined until about 65 million years ago when they became extinct. For a long time the accepted theory was that a slow change in climate led to the disappearance of many plants. Without plants to eat, the plant-eating dinosaurs died and then the meat-eating dinosaurs died when their source of food was gone.

6 But a new extinction theory was proposed in the late 1970s. An American scientist, Luis Alvarez, detected the chemical iridium in ancient soil from the end of the Age of Dinosaurs. The iridium was found in soil samples from around the world. Usually, this rare chemical is found only deep in the earth and in meteorites that fall from space.

7 Alvarez reasoned that the iridium must have been spread across the planet's surface when a giant comet struck the earth. This collision would have caused thick dust to be thrown into the atmosphere, which would have blocked out the sun. Such an environmental disaster would have

resulted in a long period of darkness and cold. Alvarez suggests that such a change in their world caused the dinosaurs to die abruptly.

Dinosaur fossils have been discovered worldwide, but most of our knowledge about dinosaurs comes from the fossils found in North America from 1870 to the early 1900s. The greatest discoveries came from a layer of rocks called the Morrison Formation, which runs through six American states from Montana to Oklahoma. And in the Alberta badlands of Canada, several expeditions between 1910 and 1917 discovered fossils of four new species of dinosaurs.

The passing of sixty-five million years has made it impossible for Alvarez or any other scientist to positively prove why the dinosaurs became extinct. In fact, we may never know for sure how the dinosaurs died. But surely the amazing thing is that they lived at all!

THE MAIN IDEA

Circle the letter of the sentence or phrase which best describes the main idea of the article about dinosaurs. Be prepared to support your answer.

- a) The biology of dinosaurs.
- b) How dinosaurs ruled the earth.
- c) Discoveries of dinosaur fossils.
- d) The rise and fall of dinosaurs.

UNDERSTANDING WHAT YOU READ

If you can, answer these questions from memory. If you cannot, look back at the article.

1) What does the word dinosaur mean?

2) What two basic kinds of dinosaurs lived on the earth?

3) Give the size of one large and one small dinosaur.

4) When did dinosaurs become extinct?

REMEMBERING DETAILS

Write TRUE or FALSE under each statement. If the statement is false, write the statement correctly.

1) Tyrannosaurus Rex was the largest meat-eating dinosaur.

2) One thing we know for sure about dinosaurs is that they all laid eggs.

3) Alvarez developed the theory that the dinosaurs died because of a slow change in the climate.

4) Scientists have found dinosaur fossils only in North America.

INFERENCES

Based on the article, circle the letter of the best sentence completion.

- 1) If the change in climate theory is correct, the extinction of the dinosaurs suggests that they were...
 - a) not strong enough.
 - b) not adaptable enough.
 - c) not intelligent enough.
 - d) not big enough.

- 2) Dinosaurs died out millions of years ago,...
 - a) but we have a very clear idea about exactly how they lived.
 - b) and so they do not receive much attention now.
 - c) but people are still very interested in them.
 - d) and yet the effects of their extinction are still being felt.

INTERPRETATION

- 1) If dinosaurs had not died out, how do you think humans and dinosaurs would have interacted?

- 2) Many children and adults are fascinated by dinosaurs, and there have been many books and movies about them. Do you share this fascination? Why or why not?

- 3) Do you think it is important to spend time and money on research about dinosaurs? Why or why not?

WORD POWER

Circle the letter of the word that means the same as the word on the left.

- | | | | |
|----------------|-----------------|-----------------|-----------------|
| 1) swampy | a) wet | b) strongly | c) vertically |
| 2) lush | a) dense | b) sparse | c) colorful |
| 3) dagger-like | a) like fingers | b) like teeth | c) like knives |
| 4) hind | a) thick | b) back | c) long |
| 5) reproduced | a) grew | b) bred | c) manufactured |
| 6) abruptly | a) suddenly | b) mysteriously | c) completely |