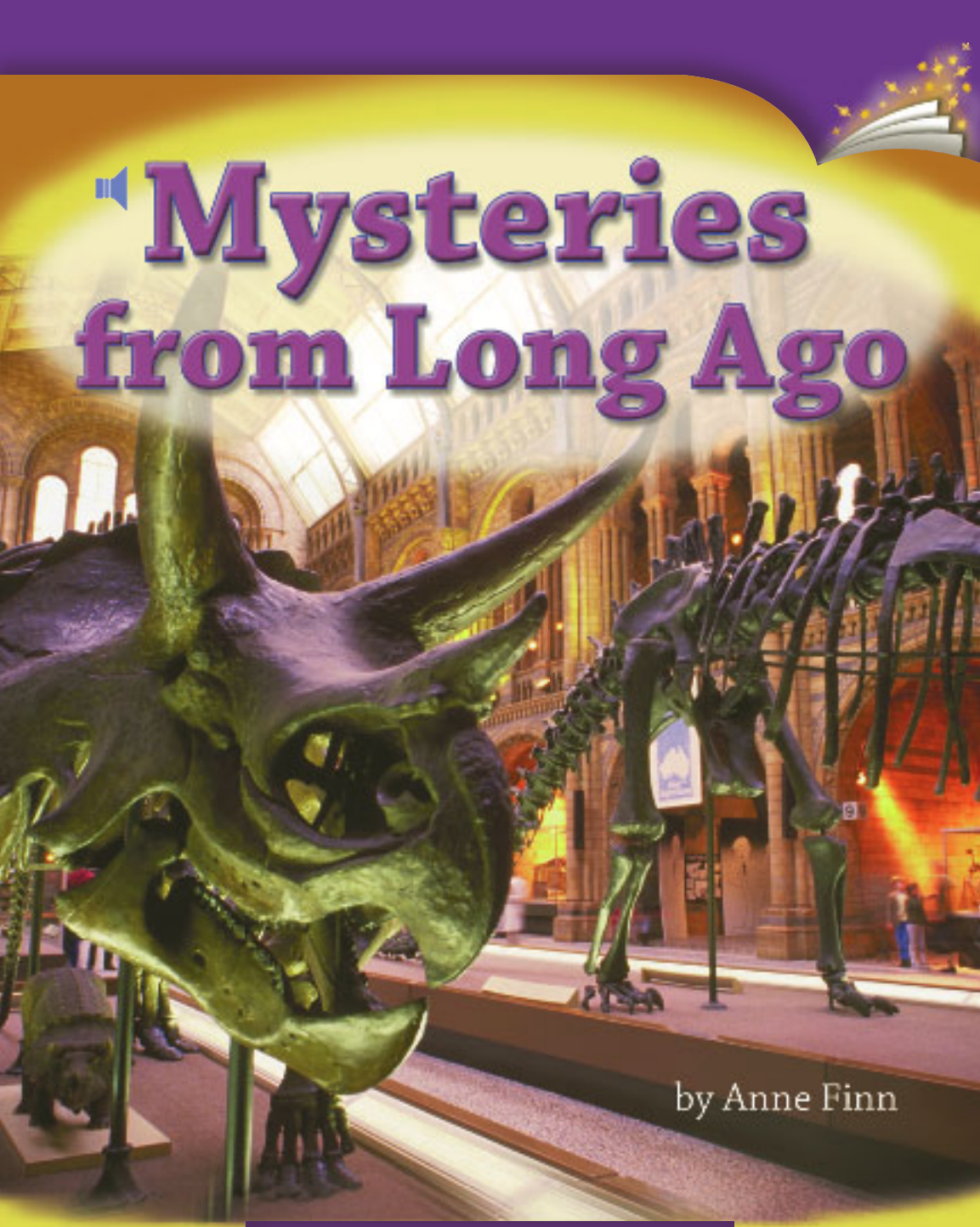
Mysteries from Long Ago



by Anne Finn

HOUGHTON MIFFLIN

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HOUGHTON MIFFLIN HARCOURT
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If you like learning about dinosaurs and other prehistoric animals, you probably know what fossils are. Fossils help scientists figure out what these animals looked like, where they lived, and what they ate.

Today, scientists keep uncovering new fossils. These fossils help them solve mysteries. They tell scientists what life was like on Earth thousands—and even millions—of years ago.

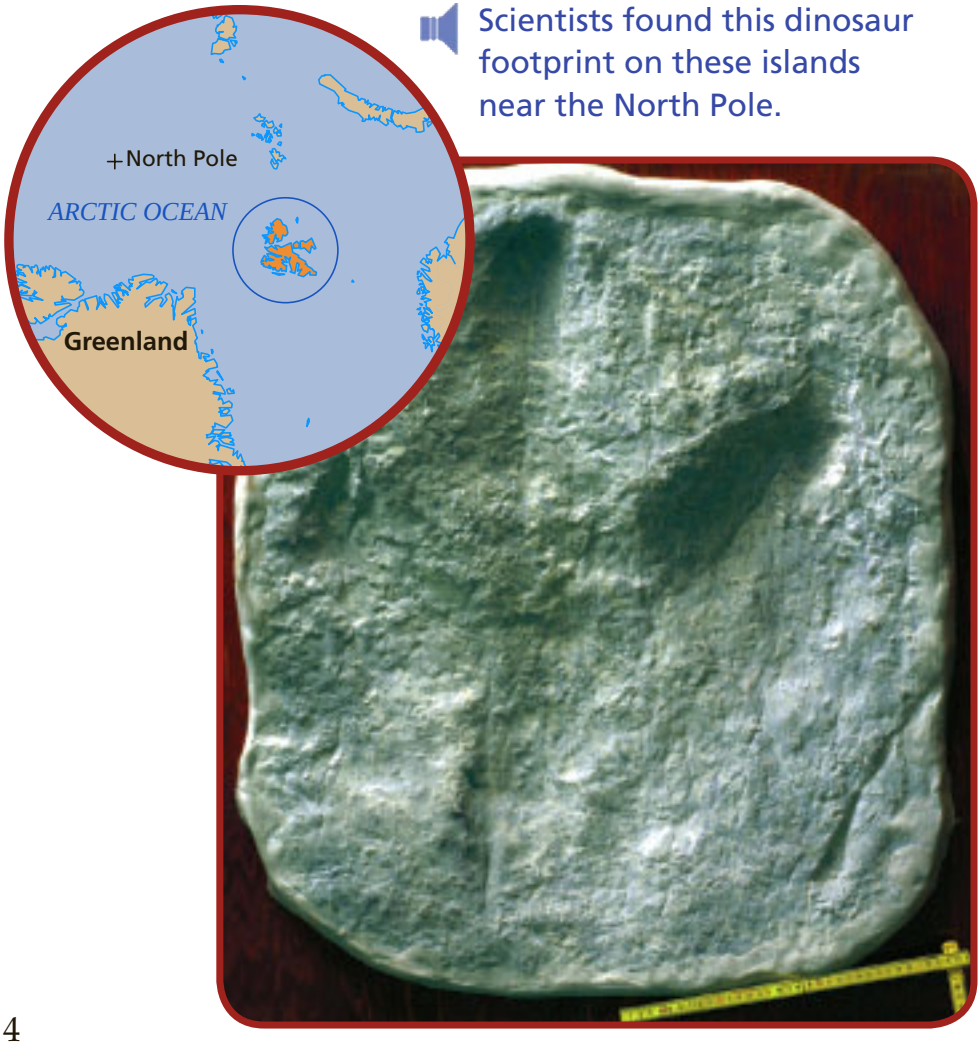
Fossils help scientists learn about dinosaurs and other animals that lived long ago.

Winter Dinosaurs

When you think of dinosaurs, you probably imagine fierce animals that roamed swampy jungles or hot deserts millions of years ago. That's just what many scientists thought, too. They believed that dinosaurs needed to live in warm climates to keep them warm. They did not believe that dinosaurs could live in cold places.

Then about fifty years ago, scientists found dinosaur footprints on an island in the cold Arctic, near the North Pole. This was the first piece of evidence that dinosaurs lived in cold places. Now scientists believed that dinosaurs could have lived all over Earth—not just in warm areas. What they didn't know was how these dinosaurs were able to survive in these cold places.

How did dinosaurs keep warm during winter? What did they eat during the cold winters? These are just some of the questions that scientists asked themselves. They kept looking for new fossils. They hoped that these fossils would help them solve this mystery.



Scientists found this dinosaur footprint on these islands near the North Pole.

Scientist think that Cryolophosaurus looked a lot like another meat-eater called Allosaurus (AL o SAWR US).

Scientists began looking for answers in other cold places like Antarctica. There they found fossils from a meat-eating dinosaur that they named Cryolophosaurus (krie o LOF O sawr US). They think the dinosaur was over 20 feet long. A dinosaur this large needed lots of animals to eat. Were there other dinosaurs in Antarctica that it ate? Scientists keep digging in the ice for more clues that might answer this question.

The Hypsilophodontid (hip si LOF o don tid) was probably able to live through winters.

The remains of dinosaurs have also been found in other cold places. Some experts think these dinosaurs migrated, or moved, to warmer places. This is what birds today do each fall. Other experts think they hibernated like bears to make it through the long winters.

Fossils from one dinosaur helped scientists learn that at least some dinosaurs could live through winter. By studying the bones, scientists could tell that this dinosaur did not hibernate or migrate. How this dinosaur kept warm during winter is a mystery scientists are still trying to figure out.

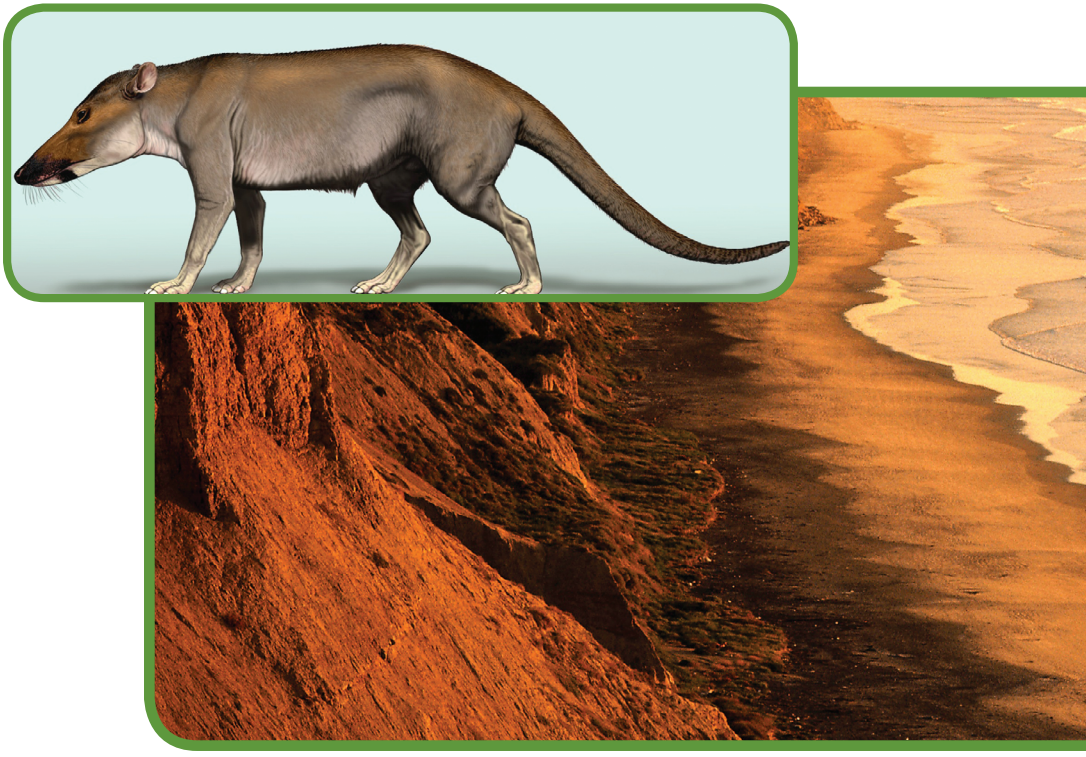
This modern-day whale might have had ancestors that walked on land.

Ancient Whales

One mystery scientists have been trying to solve for years is where modern-day whales came from. Whales look like fish, but they are really mammals that live in the sea. Scientists believe they must be related to mammals that once lived on land. They think that long ago, these mammals crawled into the sea to look for food or to get away from animals that wanted to eat them. Over a very long time, these mammals lost their feet and grew flippers.

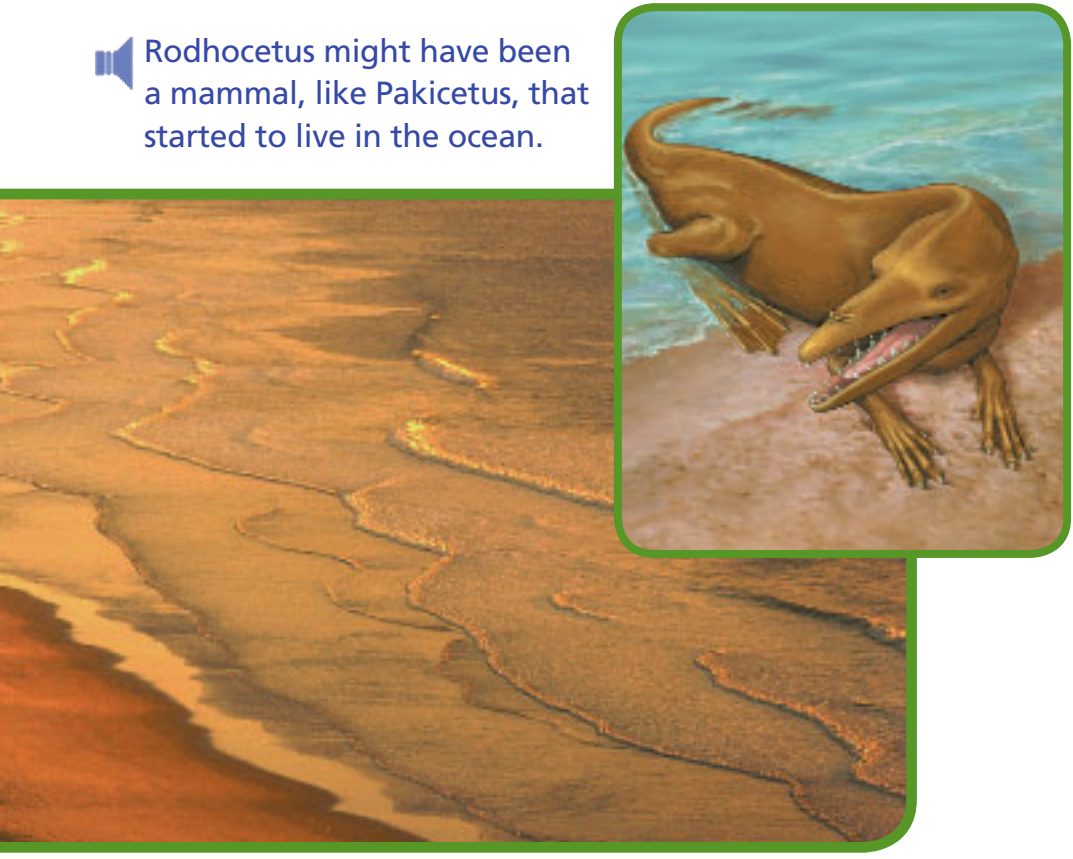
It took scientists a long time to find evidence that proved this idea might be true. First, they discovered fossils of mammals called Pakicetus (pak i SET us) whose bodies were the size of a large dog. These animals lived on land, but their ears and teeth looked a lot like whale ears and teeth. Scientists believed they might be related to early whales.

The Pakicetus (pak i SET us) might be an early relative of whales.



Scientist then found fossils of swimming mammals such as the Rodhocetus (RODE oh set us). These mammals still spent time on land, but they began to look more like whales. The shapes of their bodies made it easier for them to swim. They had pointy snouts and long tails like the Pakicetus. They also had longer feet. Scientists think these feet made them stronger swimmers.

Rodhocetus might have been a mammal, like Pakicetus, that started to live in the ocean.



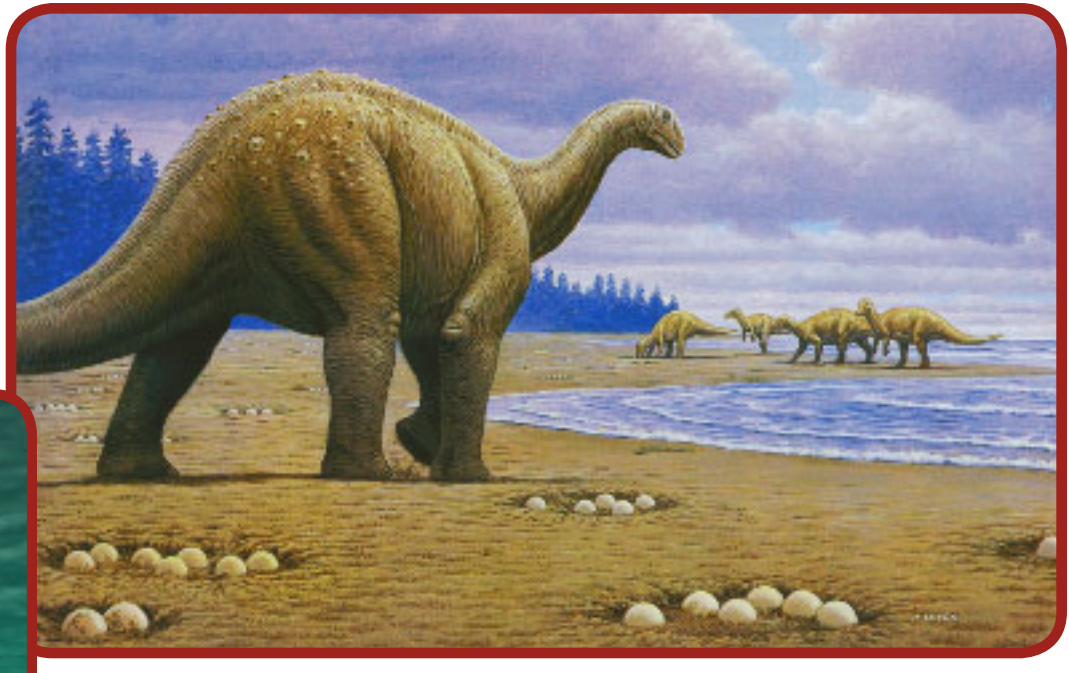
Scientists also uncovered the skeleton of an ancient whale-like creature called Basilosaurus (bah SIL uh SAWR us). It looked like a sea serpent with its tiny head and flippers. At one time, scientists thought this creature was a giant lizard or dinosaur that lived in the sea. But when they carefully studied its teeth, they were surprised. They discovered that its teeth were much more like a mammal's teeth.

Scientists think that these creatures might have been able to move on land as well as in the water. They might have moved across dry ground in the same way seals and sea lions do today. But scientists still are not sure of this.

Basilosaurus was about 70 feet long and looked a little like a sea lion.

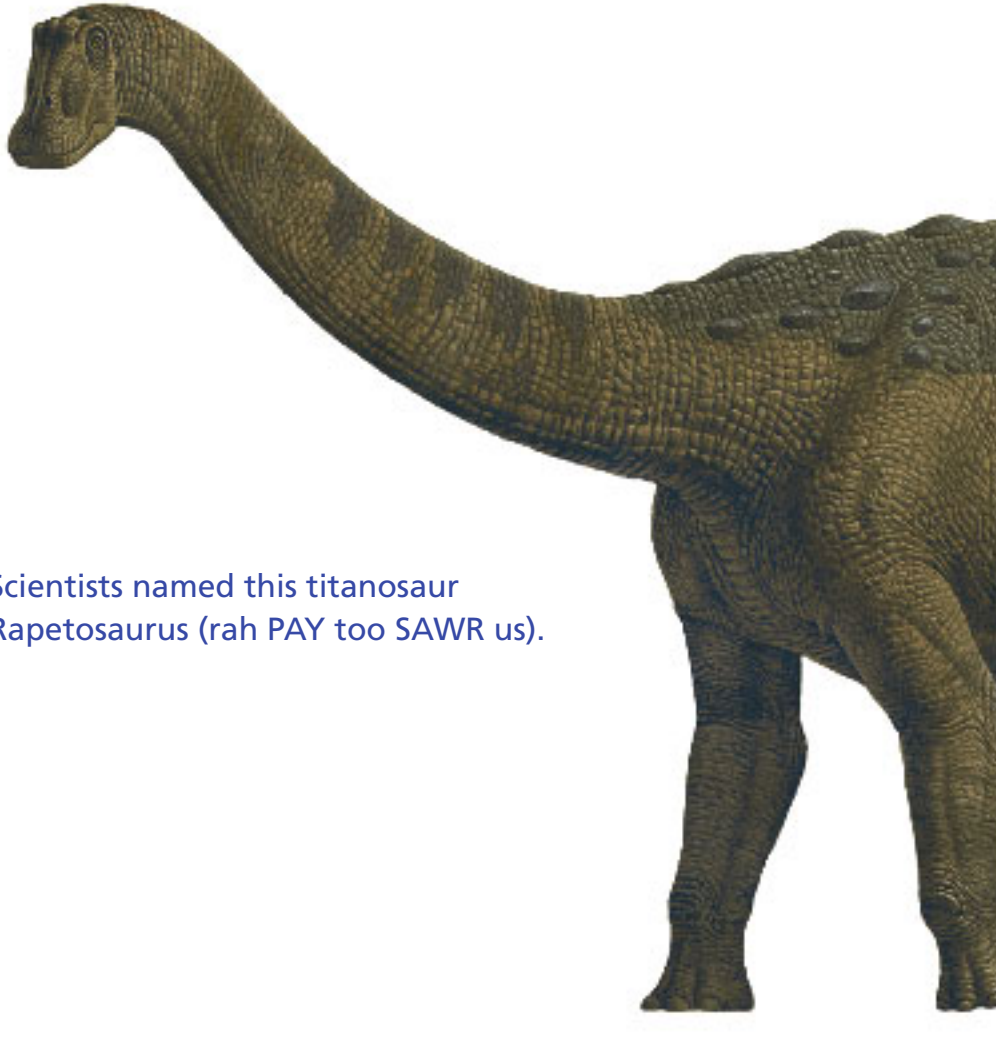
The Titanosaur Mystery

Titanosaurs (tie TAN o SAWRZ) were a type of giant dinosaur. They were plant eaters that once roamed most of Earth. The first titanosaur fossils were discovered almost 100 years ago. But exactly what titanosaurs looked like remained a mystery for a long time. This is because no complete titanosaur skull or skeleton had ever been found.



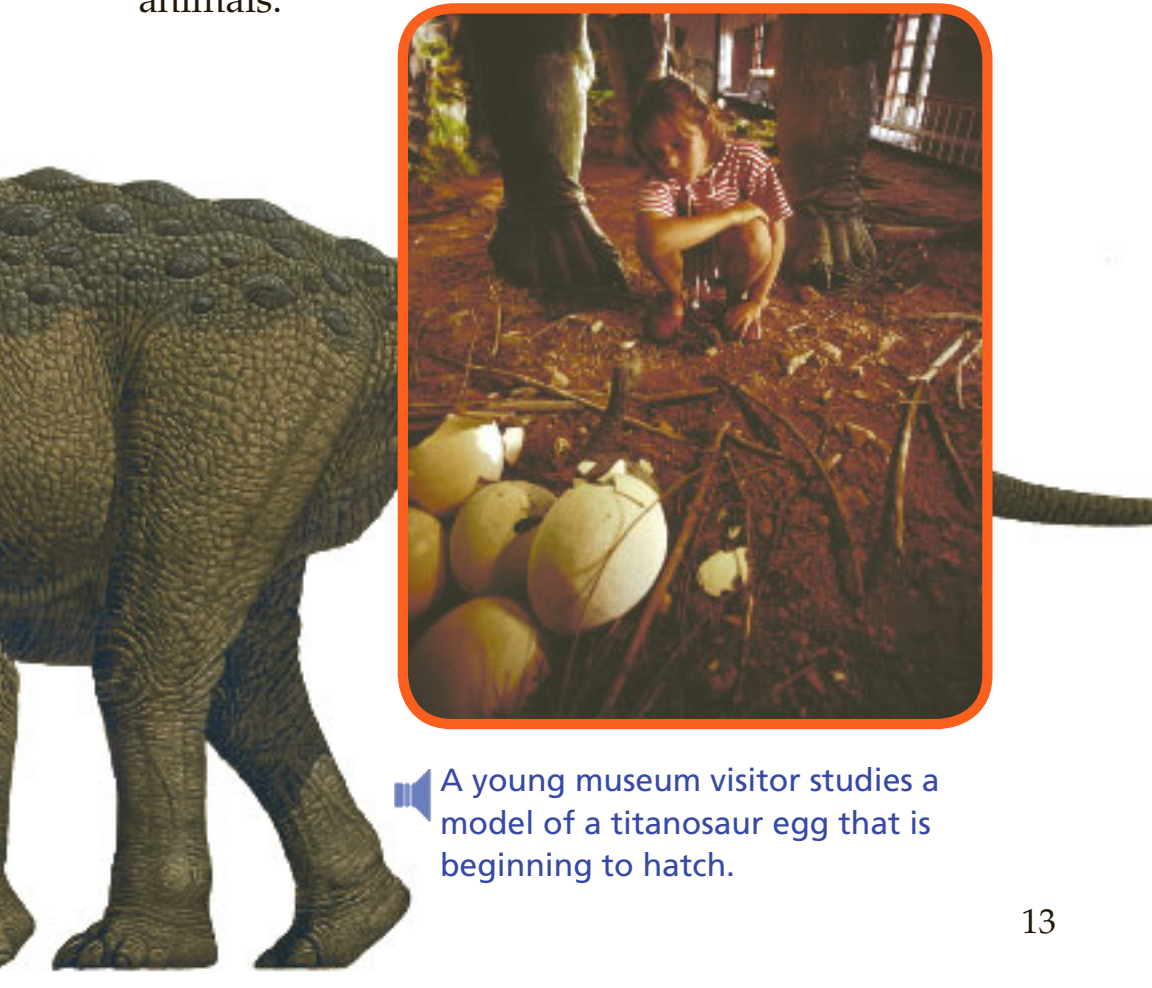
Titanosaurs might have been the largest animals ever to walk on land.

Finally, a nearly complete skeleton of a young titanosaur was uncovered. From its skeleton, scientists could tell that this titanosaur had a very long neck, a short tail, and a long, narrow snout. Fully grown, this dinosaur would have been 50 feet long. That is as long as a school bus!



Scientists named this titanosaur Rapetosaurus (rah PAY too SAWR us).

Scientists were also excited when they discovered a nest of titanosaur eggs. The eggs contained complete skeletons and skulls of baby titanosaurs. The skulls were very important to scientists. They helped them figure out more about what titanosaurs' heads looked like. They also have given scientists clues about how titanosaurs grew and how they might be related to other animals.

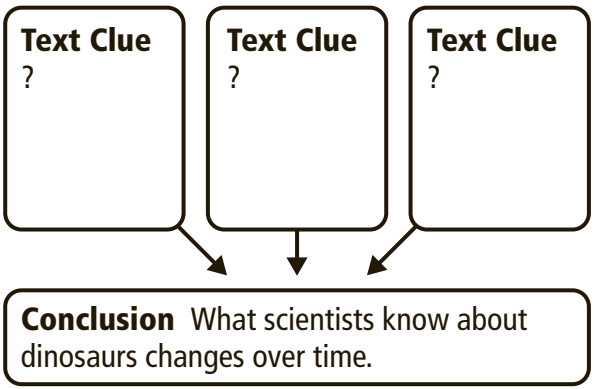


A young museum visitor studies a model of a titanosaur egg that is beginning to hatch.

What is the future of dinosaur discoveries? There are still many unexplored locations in the world. Scientists have begun digging in these places for more pieces of the puzzle. Perhaps they will find new clues buried in the ice and ground. These new discoveries may finally help them solve the mystery of what life was like long ago.

Responding

TARGET SKILL **Conclusions** What text clues helped you draw conclusions, or make smart guesses, about dinosaur mysteries? Copy the chart below. Write clues that help you make the conclusion.



Write About It

Text to Self Is learning about dinosaurs important? Write a paragraph that gives your opinion about this. Be sure to give reasons and facts to support your opinion.

TARGET VOCABULARY

buried	**locations**
clues	**proved**
evidence	**remains**
fierce	**skeletons**
fossils	**uncovering**

TARGET SKILL **Conclusions** Use details to figure out ideas that the author doesn't state.

TARGET STRATEGY **Visualize** As you read, use selection details to picture what is happening.

GENRE **Informational text** gives factual information about a topic.

Level: P

DRA: 38

Genre:
Informational

Strategy:
Visualize

Skill:
Conclusions

Word Count: 936

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