

WHEN DINOSAURS RULED

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Children admire dinosaur skeletons at the Museum of Indianapolis, U.S.A.

Warm Up

Discuss these questions with a partner.

1. Do you know when dinosaurs lived?
2. Have you ever seen a movie about dinosaurs? Describe it.
3. Why do you think people are interested in dinosaurs?

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Before You Read

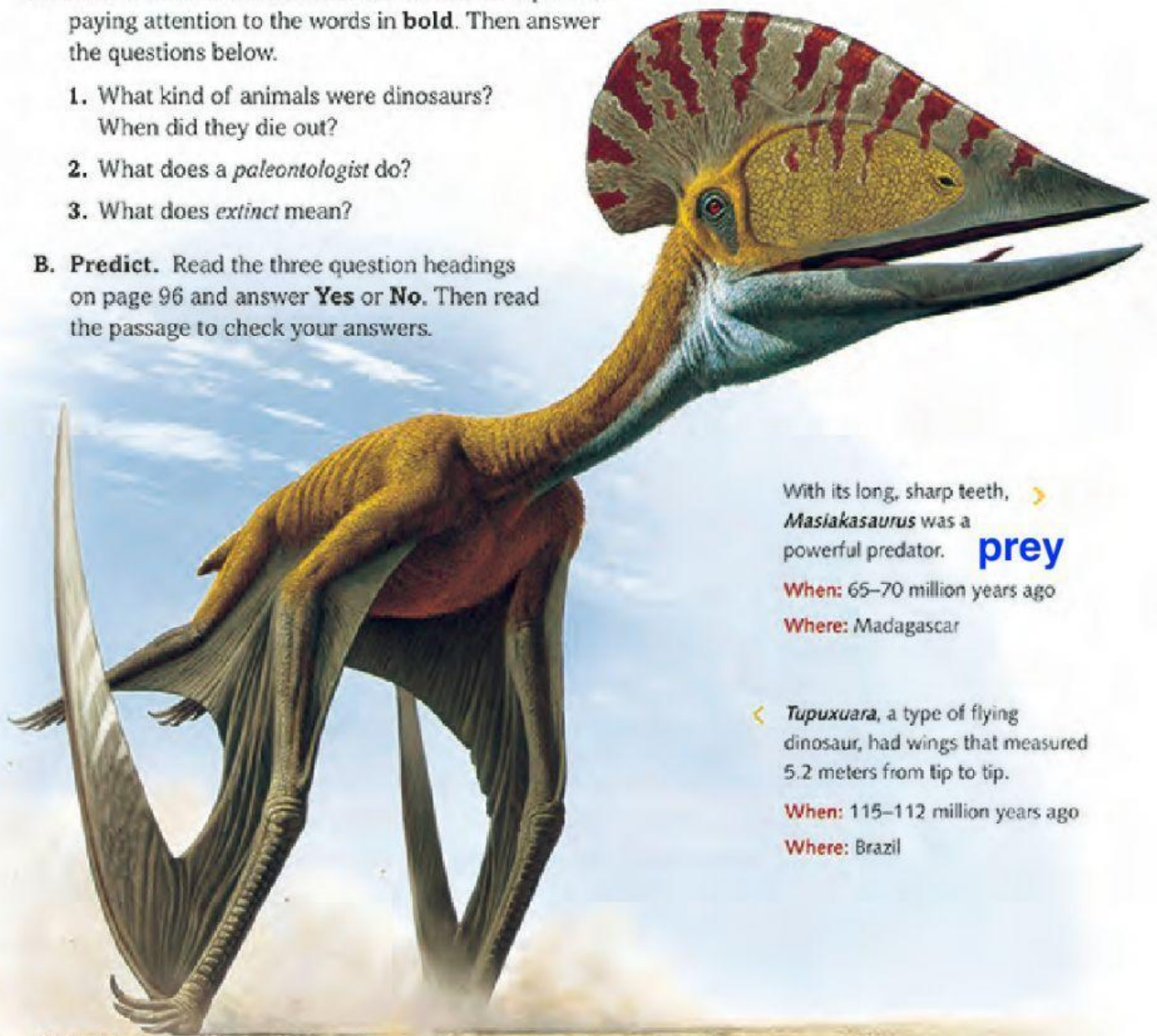
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Period	Years ago (millions)	
Triassic	248–206	Earth's warm and dry temperatures were perfect for reptiles . The oldest known dinosaur, discovered by paleontologists in Madagascar, dates to this time.
Jurassic	206–144	Some dinosaurs grew to huge sizes during this period.
Cretaceous	144–65	Dinosaurs became extinct at the end of this period.

A. Discussion. Look at the information and captions, paying attention to the words in **bold**. Then answer the questions below.

1. What kind of animals were dinosaurs?
When did they die out?
2. What does a *paleontologist* do?
3. What does *extinct* mean?

B. Predict. Read the three question headings on page 96 and answer **Yes** or **No**. Then read the passage to check your answers.



With its long, sharp teeth, *Masiakasaurus* was a powerful predator. **prey**

When: 65–70 million years ago

Where: Madagascar

< *Tupuxuara*, a type of flying dinosaur, had wings that measured 5.2 meters from tip to tip.

When: 115–112 million years ago

Where: Brazil

THE TRUTH ABOUT DINOSAURS

- 1 For years, scientists thought dinosaurs were big, cold-blooded, and not very smart—in other words, just **giant** reptiles. Some dinosaurs were huge. But many were about the size of modern-day birds or dogs. Were dinosaurs warm- or cold-blooded? Paleontologists are not
- 5 sure. But they believe a few were intelligent. Some smaller dinosaurs—like the two-meter (six-foot) *Troodon*—had **fairly** large brains.



Was *T. rex* a powerful predator?

While some scientists think *Tyrannosaurus rex* was a powerful predator, others think the opposite is true. For example, in the movies, *T. rex* is often a fast-moving giant. **In reality**, this dinosaur could not run as fast. **Physically**, it was too large, so it probably moved about as fast as an elephant. *T. rex* also had very small arms and probably wasn't a powerful **hunter**. It may have been a scavenger **instead**, eating dead animals.

Could dinosaurs fly?

Some reptiles, known as **pterosaurs**, were able to fly. But these were not dinosaurs, even though they looked like them.

Pterosaurs such as *Tupuxuara* could probably fly up to 16,000 kilometers (10,000 miles) nonstop. Scientists believe pterosaurs were actually very **heavy**. So they probably could not take off¹ from the ground like birds. Instead, they first had to drop or throw themselves from trees to fly, much like bats.

Are all dinosaurs extinct?

Dinosaurs **completely** disappeared about 65 million years ago. Scientists believe they died out because of a global **climate** change: The Earth's temperature was too cold for them to survive. Now you can only see them in **museums**. However, they believe modern-day birds are, in fact, dinosaurs' descendants. If this is true, then dinosaurs' **relatives** are still walking—and flying—among us!

¹ If you **take off**, you leave the ground and start to fly.



^ *Tyrannosaurus rex*
(*T. rex*)

Reading Comprehension

Multiple Choice. Choose the best answer for each question.

Gist

1. Another title for this reading could be _____.
a. What Really Killed the Dinosaurs?
b. Dinosaurs: Myths and Realities
c. The Life of a Paleontologist
d. Dinosaurs' New Relatives

Inference

2. Which statement about *Troodon* is probably true?
a. It was the size of a dog.
b. It was warm-blooded.
c. It was a huge animal.
d. It was quite intelligent.

Vocabulary

3. Some paleontologists think *T. rex* was a *scavenger* (line 14). What does this mean?
a. It had small arms.
b. It was a powerful killer.
c. It was similar to an elephant.
d. It ate dead animals.

Reference

4. In line 25, what does *they* refer to?
a. pterosaurs
b. scientists
c. dinosaurs
d. bats

Detail

5. What is true about *Tupuxuara*?
a. They could fly very long distances.
b. They were a type of bird.
c. They looked very different from dinosaurs.
d. They could take off from the ground.

Detail

6. What happened 65 million years ago?
a. Some dinosaurs started to fly.
b. Humans appeared on Earth.
c. The last dinosaurs died out.
d. Most birds became extinct.

Detail

7. Which sentence about dinosaurs is NOT true?
a. Many kinds of dinosaurs could fly.
b. Some dinosaurs had quite large brains.
c. *T. rex* was too large to run very fast.
d. Some scientists believe that birds are related to dinosaurs.



Did You Know?

Stegosaurus had a brain the size of a walnut, weighing just 75 grams.

Supporting Ideas with Examples

Writers often use examples to support their ideas. This is important when you make a claim (say that something is true), like in a persuasive essay. Supporting a claim with examples—or evidence—makes it more believable. Examples can also help explain difficult concepts.

Examples take different forms. Words that signal examples in a text include for example, like, and such as. Other examples may be in quotations, diagrams, and pictures.

A. Noticing. Circle the signaling words in these sentences and underline the examples.

1. Pterosaurs such as Tupuxuara could fly up to 16,000 kilometers (10,000 miles) nonstop. **eg.** _____
2. Instead, they had to first drop or throw themselves from trees to fly, much like bats.
3. For example, in the movies, T. rex is often a fast-moving giant.

B. Completion. Complete each sentence with an example from the box (a–f). One example is extra.

- | | | |
|---|--------------------------------|-----------------------|
| a. <i>Brachiosaurus</i> weighed 80 tons | b. grass and leaves | c. <i>Stegosaurus</i> |
| d. <i>Jurassic Park</i> and <i>Godzilla</i> | e. sharp points on their tails | f. jellyfish |

1. Some dinosaurs, like _____, had brains the size of a walnut.
2. To defend themselves from predators, some plant-eating dinosaurs had natural protection, such as _____.
3. Some animals have been on Earth longer than dinosaurs. For example, _____ have existed for 650 million years.
4. Many dinosaurs were heavy. For example, _____. That's 17 African elephants!
5. There have been many movies about dinosaurs, such as _____.

Critical Thinking Discuss with a partner. Why do you think many people have wrong ideas about dinosaurs? What other questions about dinosaurs would you want to find answers to?



Vocabulary Practice

A. Matching. Read the information and match each word in **red** with its definition.

For centuries, stories about **giant** sea monsters have existed in many countries. One of the most famous is Scotland's Loch Ness Monster (often called "Nessie"). **In reality**, some animals that were like Nessie lived in the world's seas 65–250 million years ago. For example, Nessie is **physically** similar to a type of plesiosaur—a sea reptile with a very long neck. But is Nessie really an ancient sea monster, still alive in a lake in Scotland? Probably not. Plesiosaurs (like the dinosaurs) died out **completely** about 65 million years ago.

1. actually, in fact _____
2. huge, very large _____
3. totally _____
4. related to the body _____

B. Completion. Complete the information by circling the correct word in each pair.

The ancient sea monster *Dakosaurus* is a 1. (**museum** / **relative**) of modern-day crocodiles. This large and 2. (**heavy** / **fairly**) South American sea reptile was a powerful 3. (**climate** / **hunter**). Sea reptiles like *Dakosaurus* were dangerous predators. Some, such as *Tylosaurus* (pictured), even ate sharks. But in the end, it was the sharks that survived. Today, you can only see *Dakosaurus* bones in a 4. (**relative** / **museum**), but sharks are found all over the world.

Word Link We can add **-er** or **-or** to form nouns that describe a person who does a certain action or job, for example, *hunter* or *inventor*.





Was *Deinocheirus* a huge animal?

The hand of *Deinocheirus*. Its body is a mystery.

Before You Read

A. Completion. Read the definitions. Then complete the paragraph below with the correct form of the words in **bold**.

claws: the long, sharp nails on the toes or fingers of some animals

fossils: the bones or remains of an animal or a plant

horns: the hard things on top of an animal's head

unearth: to take something out of the ground

Paleontologists continue to 1. _____ new dinosaur 2. _____ around the world. Many of these dinosaurs look strange to us. Some had 3. _____ on their heads. Others—like *Epidendrosaurus*—attacked their prey with 4. _____ like giant knives. What was the purpose of these unusual features? And what can they tell us about dinosaurs?

B. Predict. Look at the pictures at the top of this page. What do you think is unusual about this dinosaur? Read the passage to check your ideas.



The 30 cm (12-inch) *Epidendrosaurus* lived over 160 million years ago. Its remains were discovered in China.