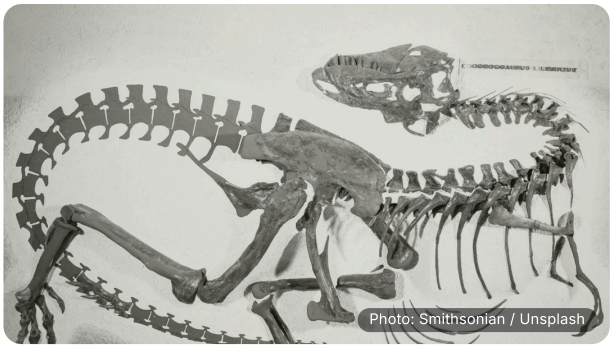
Scientists report blood traces in dinosaur bone

LEVEL B1


Photo: Smithsonian / Unsplash

I. WARM-UP

1. What do you know about dinosaurs from films or books?
2. Have you ever visited a science or natural history museum? What did you see?
3. How can fossils help us understand life in the past?

II. KEY VOCABULARY

fossil
The remains or mark of an ancient plant or animal preserved in rock.

microscope
A device that makes very small things look bigger so we can see them.

molecule
A very small particle made of atoms; it forms chemicals like water or heme.

oxygen
A gas in the air that people and animals need to breathe.

tissue
A group of similar cells in a body, like muscle or skin.

controversial
Causing disagreement because people have different strong opinions.

preserve
To keep something in good condition or stop it from breaking down.

debate
A discussion where people give different opinions about a question.

III. READING

Scientists say they found signs of fossil red blood cells inside the hind leg bone of an Aratasaurus, a small meat-eating dinosaur from what is now north-eastern Brazil about 115m years ago. Electron microscope images showed round structures that resembled blood cells in tiny channels.

Chemical tests detected heme, the molecule that helps blood carry oxygen. The fossils were found in a mine in 2008 and are held at the National Museum of Brazil. The study was led by Prof Kliti Grice at Curtin University and published in Proceedings of the National Academy of Sciences.

The team also reported traces of amino acids, the building blocks of collagen, a key protein in connective and other tissues. They suggested a manganese mineral called hausmannite may help preserve such material. The claim is controversial and has sparked debate.

Prof Mary Schweitzer of North Carolina State University was not convinced the structures are red blood cells, although she agreed that finding heme and collagen is promising. The researchers stress they are not looking for movie-style DNA.

Reading text adapted from reporting by **The Guardian***: "Fossilised red blood cells found in...". Original article linked at theenglishwire.com.*

IV. COMPREHENSION QUESTIONS

1. What animal's bone did scientists study?
2. What did images and tests suggest was inside the bone?
3. Where and when did this dinosaur live?
4. Who led the study and where do they work?
5. What view did Prof Mary Schweitzer express?

V. DISCUSSION

1. Should scientists re-test old fossils with new tools? Why or why not?
2. How do films like Jurassic Park shape our ideas about dinosaurs?
3. What makes a scientific claim trustworthy to you?
4. Would you like to work in a museum lab? Why or why not?

VI. GRAMMAR FOCUS

Connecting words

Connecting words link ideas and show relationships: and (addition), but/although (contrast), because (reason), so (result). Use them to make clear, logical sentences.

*"Heme was detected, **so** the result looked promising."*

*"Some images seemed like cells, **but** others were doubtful."*

VII. GRAMMAR EXERCISE

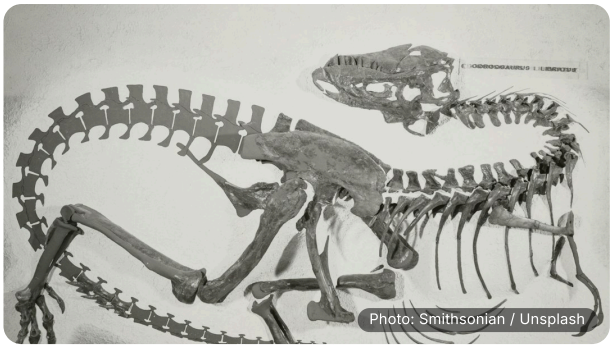
Choose the correct option in each sentence.

1. Heme is important (so / because) it helps blood carry oxygen. _____
2. They detected heme, (but / so) doubts remained. _____
3. Images showed shapes, (although / so) some disagreed. _____
4. Blood cells are tiny, (because / so) scientists use microscopes. _____
5. Some agree, (because / but) others are unconvinced. _____

Teacher's Notes

TEACHERS ONLY

These notes are designed to help you get the most out of this lesson. Please do not share this page with students.


Photo: Smithsonian / Unsplash

I. LESSON GUIDE

- Timing: 8–10 minutes warm-up, 10 minutes vocabulary, 12–15 minutes reading, 8–10 minutes comprehension, 8–10 minutes grammar (connecting words), 10 minutes discussion.
- Pre-teach or check: fossil, microscope, molecule, oxygen, tissue, controversial, preserve, debate. Use photos of fossils and a simple diagram of a red blood cell to anchor meaning.
- Run the reading in two passes: first for gist (what was found, where, who), then for detail (tests, journal, doubts). The topic can feel personal for dinosaur fans and mentions films; keep the focus on evidence from the study rather than on movie plots, and let students answer about the news instead of their own beliefs.
- Differentiation: Stronger students summarise the opposing views in two sentences using connecting words (however, although), while others underline key facts and match them to simple headings (who, what, where, when, how).

II. DISCUSSION FACILITATION TIPS

1. Take a quick poll, then pair students with an opposite view to exchange reasons.
2. Elicit one film idea, then ask for examples the article supports or challenges.
3. Board sample criteria (data, methods, review) and have pairs pick two to explain.
4. Have students list two tasks they would enjoy and one worry, then compare in pairs.

III. EXTENSION ACTIVITIES

Writing: In pairs, write a 70-word museum caption explaining the find to visitors.

Debate: Split into two teams to argue whether the structures are red blood cells; prepare 5 minutes, speak 3 minutes.

IV. ANSWER KEY OVERVIEW

Comprehension questions: short factual answers from the text.

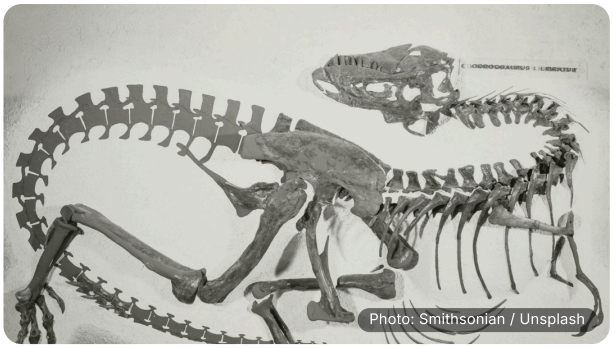
Grammar exercise: Connecting words

Discussion: open-ended. Accept any reasonable ideas supported by examples and reasoning.

Answer Key

TEACHERS ONLY

These answers are for teachers only. Please do not share this page with students.


Photo: Smithsonian / Unsplash

IV. COMPREHENSION QUESTIONS

1. What animal's bone did scientists study?
   An Aratasaurus, a small meat-eating dinosaur.
2. What did images and tests suggest was inside the bone?
   Round cell-like structures and the molecule heme.
3. Where and when did this dinosaur live?
   In what is now north-eastern Brazil, about 115m years ago.
4. Who led the study and where do they work?
   Prof Kliti Grice at Curtin University.
5. What view did Prof Mary Schweitzer express?
   She was not convinced the structures were red blood cells.

V. DISCUSSION

Open answers. Accept any reasonable ideas supported by examples and reasoning.

VII. GRAMMAR EXERCISE

Choose the correct option in each sentence.

1. Heme is important (so / because) it helps blood carry oxygen. **because**
2. They detected heme, (but / so) doubts remained. **but**
3. Images showed shapes, (although / so) some disagreed. **although**
4. Blood cells are tiny, (because / so) scientists use microscopes. **so**
5. Some agree, (because / but) others are unconvinced. **but**

VI. GRAMMAR FOCUS

Key point: Connecting words link ideas and show relationships: and (addition), but/although (contrast), because (reason), so (result). Use them to make clear, logical sentences. (Examples constructed.)

> *"Heme was detected,* **so** *the result looked promising."*
>
> *"Some images seemed like cells,* **but** *others were doubtful."*