

WRITING

This section measures your ability to write in English to communicate in an academic environment.

There are two writing questions in this section.

For question 1, you will read a passage and listen to a lecture about the same topic. You may take notes while you read and listen. Then you will write a response to a question based on what you have read and heard. You may look back at the passage when answering the question. You may use your notes to help you answer the question. You have 20 minutes to plan and write your response.

For question 2, you will write an essay based on your own knowledge and experience. You have 30 minutes to plan and complete your essay.

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1. **Directions:** Give yourself 3 minutes to read the passage.

Reading Time: 3 minutes

Endotherms are animals such as modern birds and mammals that keep their body temperatures constant. For instance, humans are endotherms and maintain an internal temperature of 37°C, no matter whether the environment is warm or cold. Because dinosaurs were reptiles, and modern reptiles are not endotherms, it was long assumed that dinosaurs were not endotherms. However, dinosaurs differ in many ways from modern reptiles, and there is now considerable evidence that dinosaurs were, in fact, endotherms.

Polar dinosaurs

One reason for believing that dinosaurs were endotherms is that dinosaur fossils have been discovered in polar regions. Only animals that can maintain a temperature well above that of the surrounding environment could be active in such cold climates.

Leg position and movement

There is a connection between endothermy and the position and movement of the legs. The physiology of endothermy allows sustained physical activity, such as running. But running is efficient only if an animal's legs are positioned underneath its body, not at the body's side, as they are for crocodiles and many lizards. The legs of all modern endotherms are underneath the body, and so were the legs of dinosaurs. This strongly suggests that dinosaurs were endotherms.

Haversian canals

There is also a connection between endothermy and bone structure. The bones of endotherms usually include structures called Haversian canals. These canals house nerves and blood vessels that allow the living animal to grow quickly, and rapid body growth is in fact a characteristic of endothermy. The presence of Haversian canals in bone is a strong indicator that the animal is an endotherm, and fossilized bones of dinosaurs are usually dense with Haversian canals.

