

## Writing About the Book

On a separate sheet of paper, write the answers to each of the following.

### Extending the Story

1. Bakker has suggested that the classification of dinosaurs be radically changed. Assume that his dinosaur heresies have become accepted theories in the twenty-first century. Write a brief, overall description of dinosaurs based upon his new theories.

### Thinking About Assumptions

2. Bakker writes, “Scientific thinking often benefits from the throwing of ‘bombs’—the publication of ideas so revolutionary that one half of the profession is scandalized, while the other half is captivated. . . .” Do you think that Bakker is convinced by all of his own heresies? Explain how such a “bomb” benefits paleontology. Support your explanation by describing the effect of Bakker’s scientific “bombs.”

### Responding to a Review

3. Describing *The Dinosaur Heresies*, the *New York Times Book Review* states, “. . . his drawings of galloping dinosaurs are a splendid complement to his prose.” Do you agree with this statement? Write an essay that explains whether Bakker’s illustrations complement his writing. Use examples of specific drawings and descriptions to support your answer.

### Evaluating the Author

4. Robert T. Bakker challenges the work of many paleontologists. What qualifications and characteristics does he bring to this task? How do you think paleontologists feel about Bakker as a scientist?

### Writing a Scientific Letter

5. Suppose that you are a paleontologist studying dinosaurs. You have read Bakker’s writings that dispute traditional dinosaur theories. Choose one aspect of dinosaur orthodoxy, and write a letter to Bakker in which you support or challenge his new theory. Cite specific points in his theory, and directly address each one.

### Analyzing the Theories

6. If you were Robert T. Bakker, what would you do to counteract the orthodox theories with which you disagree? Would you dismiss the work of scientists with which you disagree? Would you argue with them? Would you look for supporters of your own theories? What approach do you think is most beneficial for scientific progress?

## ***Testing on the Book***

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On a separate sheet of paper, write the answers to each of the following.

### **Critical Thinking and Writing**

1. To follow Bakker's ideas, scientists would need to restructure scientific animal classification. What would be required to accomplish this? What would the scientific implications be? Explain how this would affect biology in general.
2. Paleontology differs from many areas of science in that it is impossible to perform experiments directly on dinosaurs and other life forms contemporary to dinosaurs. Explain how the methods for drawing paleontologic conclusions differ from traditional scientific methodology. Cite examples in which experimentation can be used, and explain how it fits into the process of drawing conclusions.
3. The location and placement of fossils are key paleontologic factors. Explain how fossils found in different places contribute to a single theory regarding dinosaurs.
4. Anatomical capabilities provide important clues to understanding dinosaurs. Describe how these capabilities are determined. Explain how assumptions based on dinosaur anatomy give rise to theories. How are incorrect assumptions made?
5. The controversy over Darwin's *The Origin of Species* was tremendous and ongoing. How do Bakker's "heresies" impact the future of paleontology and other scientific areas?

