

Writing About the Book

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

Extending the Story

1. Paul de Kruif's historical account of microbe hunters ends in 1926, when the book was first published. The hunt for microbes that cause disease continued. For many diseases, a vaccine, an antitoxin, or a preventive measure has been discovered. Choose and research a scientist who worked to discover the microbe that caused a particular disease. Write a description of the scientist and his or her research. Include the motivation for the microbe hunt.

Thinking About Assumptions

2. After determining that tsetse flies carried sleeping sickness between humans, David Bruce set out to rid Uganda of the disease. He made a mistake in assuming that trypanosomes only live in human blood. Later he regretted that it was not possible for him to experiment with injecting the nagana trypanosomes into one thousand human beings. Would such an experiment have proved Bruce's assumption that the new form of sleeping sickness was the same as nagana? Why, or why not?

Responding to a Review

3. In writing about *Microbe Hunters*, F. Gonzalez-Crussi, M.D. praises the book for continuing to engage hearts and minds today, especially since he states that it "deals with facts and personalities whose description has been reiterated ad nauseam." Write an essay in which you react to this opinion. Do you think de Kruif's book is still timely and interesting? Why, or why not?

Evaluating Characters

4. Louis Pasteur and Robert Koch approached science quite differently, yet they had similar goals. Compare and contrast the two scientists. Which man do you think achieved more? Why?

Writing a Journal Entry

5. Imagine that you are working as an assistant to one of the scientists who is searching for a specific microbe. It is your responsibility to keep a written record of each day's experiments and discussions. Write the entry which describes a major discovery in the search.

Analyzing Scientific Methods

6. If you were a microbe hunter, which scientist would you use as a role model? Describe the scientific methodology used by the microbe hunter, as described in the book, and explain why you think it produced the best results. How has this methodology withstood the test of time in taming the diseases caused by microbes? What would you do differently? Why?

Testing on the Book

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

Critical Thinking and Writing

1. How did Leeuwenhoek's personality and individual interests affect the use of his invention? Cite incidents and statements that illustrate his effectiveness as the first of the microbe hunters.
2. People all around the world were anxious for cures and preventions for the deadly diseases that ravaged them. How did the public's reaction to the vaccination for rabies affect Pasteur's decision on how to proceed with his work? How did the public's reaction to fighting diphtheria affect Behring's development of the antitoxin?
3. Koch's systematic research methods became known as Koch's postulates. They are a set of steps to determine the causative agent of a disease. They are the following: 1) isolate the organism from the patient, 2) infect a healthy animal to recreate the disease, and 3) isolate the organism from the newly sickened animal and compare it to the organism originally isolated. Describe how one of the microbe hunters strayed from or adhered to Koch's postulates.
4. At times the scientists' hypotheses and testing methods seemed farfetched. Consider the current scientific information to which they did not have access. Select a microbe search described in the book. Write a description of how the search would have differed with modern information and technology.
5. Some of the scientists described by Paul de Kruif were more inclined to theorize and hypothesize. Some were more inclined to test and re-test a single hypothesis. What did all of these men have in common?

