

## Skills Worksheet

**Active Reading****Section: The Nature of Science**

Read the passage below. Notice that certain sentences are numbered. Answer the questions that follow.

<sup>1</sup> Scientists study the natural world by observing. <sup>2</sup> That means they use their senses to notice characteristics of objects and living things and to learn information about natural events. Scientists use their observations to formulate questions. Questioning is a key feature of scientific thought. <sup>3</sup> Scientific thought is also based on **skepticism**—a doubting attitude. Scientists look carefully and questioningly at evidence used to support ideas. They do not simply accept opinions. <sup>4</sup> For example, according to conventional wisdom, stress is the cause of stomach ulcers. <sup>5</sup> However, some scientists studying this problem could not find any evidence to support the cause-and-effect relationship. <sup>6</sup> So they examined microorganisms in the stomachs of people with and without stomach ulcers. <sup>7</sup> They found people with ulcers had higher levels of bacteria called *Helicobacter pylori* in their stomachs than other people did. <sup>8</sup> Extensive research has shown that these bacteria cause stomach ulcers.

**SKILL: READING EFFECTIVELY**

Read each question, and write your answer in the space provided.

1. Based on Sentence 2, how would you define the word *observe*?

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2. Based on Sentence 3, how would you define the word *skepticism*?

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3. Use context clues to explain what conventional wisdom is.

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4. A possible cause-and-effect relationship is presented in Sentence 4. What is it?

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Active Reading *continued*

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**SKILL: RECOGNIZING CAUSE AND EFFECT**

Read each question, and write your answer in the space provided.

5. Based on Sentence 5, how did some scientists assess this cause-and-effect relationship and why?

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6. How did these scientists find evidence of a different cause-and-effect relationship? Which sentence supports your answer?

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7. What have scientists found to be a cause of stomach ulcers?

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8. Based on this paragraph, what would scientists do if they found that the cause for stomach ulcers you gave in Question 8 did not seem to explain why some people had stomach ulcers?

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In the space provided, write the letter of the term or phrase that best answers the question.

- \_\_\_\_\_ 9. To learn more about stomach ulcers, what did the scientists described in the paragraph do?
- a. They recorded what people with stomach ulcers ate.
  - b. They gauged the stress levels of people with and without stomach ulcers.
  - c. They observed the microscopic organisms in the stomachs of people with and without ulcers.
  - d. They accepted the conventional wisdom about the cause for stomach ulcers.