

Skills Worksheet

Directed Reading B

Section: Scientific Methods (pp. 12–19)

WHAT ARE SCIENTIFIC METHODS?

1. The first step in using scientific methods is asking questions. Name two steps that follow.

2. Why do scientists vary the order of the steps of scientific methods?

ASK A QUESTION

3. When you observe something out of the ordinary or difficult to explain, what might you do?

MAKE OBSERVATIONS

- _____ 4. Observations are useful only if they are

- | | |
|---------------|-----------------|
| a. important. | c. complicated. |
| b. accurate. | d. understood. |

5. What did students in Minnesota do with their data and observations after they examined the frogs?

6. What is an observation?

7. What are some tools that scientists use to make observations?

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FORM A HYPOTHESIS

8. A possible explanation or answer to a question is a(n)

_____.

9. What is a hypothesis based on?

10. A hypothesis must be able to be _____ in order to be useful.

11. What were three hypotheses that scientists formed about what caused deformation in frogs?

12. A statement of cause and effect that can be used to set up a test for a hypothesis is called a(n) _____.

13. In what format is a scientist's statement of cause and effect usually stated?

TEST THE HYPOTHESIS

14. What is a controlled experiment?

15. What is a variable?

16. Designing an experiment requires _____.

17. What kind of guidelines must scientists use in designing and conducting an experiment?

18. How should scientists care for animals, such as the frogs in experiments with UV light?

