

## Skills Worksheet

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# Directed Reading

## Section: Scientific Processes

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

- 1 What is observation?
  
  
  
  
  
  
  
  
  
  
- 2 What observation did John Harte make about tiger salamanders?

Complete each statement by underlining the correct term or phrase in the brackets.

- 3 John Harte questioned why the number of salamanders was [increasing / decreasing].
  
- 4 A [prediction / hypothesis] is an educated guess that can be tested by experimentation.
  
- 5 John Harte made a [prediction / hypothesis] when he said “there is enough acid in the snow to harm salamanders.”

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

- 6 What was John Harte’s hypothesis about what was making the snow acidic?
  
  
  
  
  
  
  
  
  
  
- 7 What did John Harte’s data show about the pH of the ponds after the snow melted?

Directed Reading *continued*

Complete each statement by writing the correct term or phrase in the space provided.

8 A planned procedure to test a hypothesis is called a(n) \_\_\_\_\_ .

9 In an experiment, a group that receives no treatment is called a(n) \_\_\_\_\_ group.

10 In an experiment, the factor that is varied is called the \_\_\_\_\_ variable.

11 In an experiment, the factor that is measured is called the \_\_\_\_\_ variable.

Study the following steps in a scientific investigation. Determine the order in which the steps commonly take place. Write the number of each step in the space provided.

\_\_\_\_\_ 12. forming a hypothesis \_\_\_\_\_ 13. asking a question \_\_\_\_\_ 14. collecting observations  
\_\_\_\_\_ 15. drawing a conclusion \_\_\_\_\_ 16. confirming a prediction (with experiments when  
needed)

Complete each statement by writing the correct term or phrase in the space provided.

17 A(n) \_\_\_\_\_ unites and explains a broad range of observations.

18 Scientists routinely make \_\_\_\_\_ and attempt to confirm them by testing one or more alternative hypotheses.

19 Future \_\_\_\_\_ may cause a theory to be revised or discarded.

20 The word \_\_\_\_\_ is used differently by scientists than by the general public.