

## Skills Worksheet

# Critical Thinking

## ANALOGIES

Mark the letter of the pair of terms that best completes the analogy shown. An analogy is a relationship between two pairs of words or phrases written as  $a : b :: c : d$ . The symbol  $:$  is read "is to," and the symbol  $::$  is read "as."

- \_\_\_\_\_ 1. phytoplankton : zooplankton ::  
a. primary producers: predators  
b. nekton : benthos  
c. bacteria : decomposers  
d. plants : animals
- \_\_\_\_\_ 2. freshwater wetland : Everglades ::  
a. barrier island : New York  
b. estuary : Chesapeake Bay  
c. mangrove : Rio de Janeiro  
d. coral reef : tropics
- \_\_\_\_\_ 3. beavers : ponds ::  
a. reptiles : swamps  
b. amphibians : lakes  
c. humans : artificial lakes  
d. waterfowl : wetlands
- \_\_\_\_\_ 4. surface water : photosynthesis ::  
a. brackish water : salinity  
b. deep water : decomposition  
c. wetlands : filtration  
d. algae : eutrophication
- \_\_\_\_\_ 5. marshes : swamps ::  
a. grasslands : forests  
b. ponds : oceans  
c. mosses : rivers  
d. cactuses : deserts
- \_\_\_\_\_ 6. rivers : snow melt ::  
a. lakes : groundwater  
b. Arctic : ice  
c. coastal wetlands : rain  
d. littoral zones : flooding
- \_\_\_\_\_ 7. trout : headwaters ::  
a. oxygen : runoff  
b. sediment : riverbed  
c. plankton : downstream  
d. rhizoids : rocks

## Critical Thinking *continued*

### INTERPRETING OBSERVATIONS

**Read the following passage, and answer the questions below.**

A small community was nestled along the edge of a sparkling, blue lake. Local residents often flocked to the lake to swim, boat, and fish. Many of the local residents were dairy farmers or grew crops for the local people. As the community grew, more factories came to the area and used the water from the lake for their manufacturing processes. Several years later the residents noticed that the fish were dying and a layer of thick, slimy algae was gradually covering the lake.

- 8.** Describe what happened to the lake. What role did bacteria play in the transformation of the lake?

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- 9.** How could this problem impact the entire ecosystem?

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- 10.** Could this same problem occur at the headwaters of a river? Why or why not?

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**Critical Thinking** *continued*

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**AGREE OR DISAGREE**

**Agree or disagree with the following statements, and support your answer.**

**11.** Plants and animals prefer to live on sandy shores rather than rocky shores.

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**12.** Human activities do not threaten coral reefs.

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**13.** Most photosynthesis occurs in the upper 100 meters of the ocean.

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**Critical Thinking** *continued*

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**REFINING CONCEPTS**

**The statements below challenge you to refine your understanding of concepts covered in the chapter. Think carefully, and answer the questions that follow.**

- 14.** Why is a toxic chemical spill on land potentially harmful to animals that live in the ocean?

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- 15.** Eutrophication sometimes occurs naturally. Explain how the process can be accelerated.

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- 16.** What do you think would happen to a North American freshwater trout if it were placed in a tropical ocean? Explain your answer in terms of factors that affect organisms in different aquatic ecosystems.

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