Name _____ Class _____ Date _____

Critical Thinking

ANALOGIES

In the space provided write the letter of the pair of terms or phrases 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.** harvesting : poaching ::
    a. ivory sales : CITES   **c.** supply : demand
    b. buying : stealing   **d.** traveling : ecotourism

_____ **2.** extinct : endangered ::
    a. dinosaur : crocodile   **c.** death : illness
    b. fern : coal   **d.** coral : reef

_____ **3.** seeds : germ-plasm bank ::
    a. stocks : stock exchange
    b. bottleneck : biodiversity
    c. gene : chromosome
    d. books : library

_____ **4.** keystone species : ecosystem ::
    a. peanut : Central America
    b. sea urchin : kelp beds
    c. gray wolf : Yellowstone National Park
    d. bison : hides

_____ **5.** endangered species : threat ::
    a. Florida panther : habitat loss
    b. California condor : captive breeding
    c. coffee plants : sustainable land use
    d. dragon tree : Mediterranean Basin

_____ **6.** exotic species : endemic species ::
    a. fire ants : livestock   **c.** hunter : sea otter
    b. foreign : native   **d.** threat : friend

_____ **7.** antibiotics : fungi ::
    a. biotechnology : medicine   **c.** shaman : medicine man
    b. wheat : Southwest Asia   **d.** medicines : plants

_____ **8.** genes : genetic diversity ::
    a. DNA : specific traits
    b. seeds : plants
    c. habitats : ecosystem diversity
    d. food webs : biosphere

| Critical Thinking *continued*

INTERPRETING OBSERVATIONS

Read the following passage and answer the questions below.

To preserve the delicate balance in an ecosystem, many organisms play a crucial role. For example, insects and flowering plants are intricately united. On a smaller scale, lichens are organisms made of algae and fungi. Algae produce nutrients through photosynthesis, which are used by fungi, and the fungi supply algae with the water they need to survive. Lichens are hardy organisms that can live and reproduce attached to rocks, trees and soil. They can slowly break down rocks contributing in this way to the formation of the soil. Lichens grow in a variety of environments such as deserts, the Polar Regions and forests. They are food for big animals such as musk ox and caribou. If lichens ceased to exist, the negative impact on the environment of the world would be dramatic.

9. What type of species interaction is the author referring to in the preceding passage? Can you infer the importance of lichens for the biodiversity of Earth?

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10. What is the reasoning behind the last statement in the passage?

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11. Popular images of biodiversity often focus on large endangered animals, such as pandas and tigers. Why do you think it is equally important to consider the producer level of the food chain as endangered?

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| Critical Thinking *continued*

AGREE OR DISAGREE

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

12. When disagreements between developers and environmentalists are worked out, usually neither side gets everything it wants, but both sides get something. This compromising approach is effective enough to save endangered species.

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13. The Biodiversity Treaty will benefit society.

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14. To protect biodiversity worldwide, many conservationists suggest that at least 10 percent of Earth's land be set aside as protected preserves. This percentage is the minimum and should be considered in all cases.

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| **Critical Thinking** *continued* |

REFINING CONCEPTS

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

The gray wolf is a species that people have maligned in campfire tales and stories such as "Little Red Riding Hood." Recently, the gray wolf was reintroduced into Yellowstone National Park and its population has increased. The wolves interact both with humans and wild animals. Some people agree with the reintroduction and others disagree.

15. Why is reintroducing the gray wolf important for the Yellowstone ecosystem?

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16. Nearby ranchers claim that the wolves will prey on their livestock. Is it possible to evaluate this claim "before the fact"?

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17. Is it possible to predict the effect(s) of eliminating a species from an ecosystem? Explain your answer.

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