

Skills Worksheet

Critical Thinking**ANALOGIES**

In the space provided, write the letter of the pair of terms or phrases that best complete 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. carrying capacity :
population size ::
a. niche : habitat
b. amount of water : plant growth
c. death rate : birth rate
d. severe weather : density-dependent deaths | _____ 5. density : area ::
a. dispersion : niche
b. leaves : forest
c. growth rate : time
d. habitat : niche |
| _____ 2. predator : prey ::
a. competition : species
b. grazing : herbivores
c. ants : acacia trees
d. parasite : host | _____ 6. relationship : symbiosis ::
a. evolution : population
b. business : partnership
c. mutualism : competition
d. health : illness |
| _____ 3. species : population ::
a. heart : body
b. plants : animals
c. cows : herd
d. sunlight : trees | _____ 7. births : positive growth rate ::
a. reproduction : extinction
b. deaths : negative growth rate
c. limited resource : exponential growth
d. niche : habitat |
| _____ 4. limiting resource : carrying capacity ::
a. turtle : pond
b. sunlight : plant growth
c. territory : density-independent deaths
d. population growth : parasitism | _____ 8. long generation time : short generation time ::
a. dogs : cats
b. ants : dogs
c. elephants : bacteria
d. daisies : trees |

Critical Thinking *continued***INTERPRETING OBSERVATIONS**

Read the following, and answer the questions below.

Imagine that two species of monkeys are introduced to an island that provides them with an ideal habitat. One species is arboreal and eats fruits and leaves; the other is terrestrial and relies on fallen fruits and a few small insects it can pick from the ground for survival. The monkeys have an abundance of food, no local competition for the food, and no predators. After a decade, the number of frugivorous and leaf-eating arboreal monkeys increased faster than the terrestrial fruit and insect eaters.

After 20 years, the number of terrestrial monkeys in the island started to decrease rapidly, although the arboreal monkey population remained fairly stable.

- 9.** Explain what probably caused the changes in the two monkey populations.

- 10.** What type of biological interaction best explains the relative greater success of the arboreal monkeys?

- 11.** Is the terrestrial population of monkeys destined to extinction? Explain.

Critical Thinking *continued*

AGREE OR DISAGREE

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

- 12.** An ecosystem can be viewed as a host that is parasitized by the organisms that live in or on it.

- 13.** The only competitors that humans have for food are other humans and insects.

- 14.** The interaction generated by human intervention to protect the gray wolf population in the northwestern United States can be defined as commensalism.

Critical Thinking *continued*

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.

- 15.** Although there are many predators on the African savanna, none plays exactly the same role as the lion. Can any two species occupy exactly the same niche? Why or why not?

- 16.** A biologist thinks that over time a parasite can influence the evolution of its host species. Do you think that she is right? Justify your answer.

- 17.** To be considered part of the same population organisms must have a reasonable chance of mating with each other. Are two wild roses separated by a wide road part of the same population? Defend your answer.
