

Skills Worksheet

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. antibiotic : bacteria ::
a. insecticide : insect
b. ant : cockroach
c. pesticide : insecticide
d. insect : species
- _____ 2. biotic : abiotic ::
a. rocks : sand
b. air : organism
c. organism : water
d. species : population
- _____ 3. organism : habitat ::
a. community : population
b. fish : coral reef
c. shelter : nest
d. squirrel : pond
- _____ 4. population : species ::
a. field mice in Florida : field mice
b. field mice in Florida : field mice in Maine
c. field mice : rodents
d. total organisms in a prairie : total bison in a herd
- _____ 5. natural selection : evolution ::
a. jogging : running
b. floods : rain
c. dog : cat
d. studying : passing a test
- _____ 6. skeleton : human body ::
a. foot : birds
b. egg : frogs
c. cell walls : fungi
d. rock : sand
- _____ 7. plants : land ecosystems ::
a. sand : desert ecosystems
b. phytoplankton : water ecosystems
c. forests : trees
d. snow : winter
- _____ 8. Hawaiian honeycreeper's beak : obtaining nectar ::
a. sunburn : wearing sunscreen
b. buying stamps : getting mail
c. insect's skeleton : keeping warm
d. sweet nectar : attracting pollinators
- _____ 9. cone : pine tree ::
a. flower : rose bush
b. leaves : oak tree
c. fruit : wildflowers
d. roots : cactus
- _____ 10. vertebrates : animals ::
a. bacteria : protists
b. angiosperms : plants
c. molds : bacteria
d. algae : fungi

Critical Thinking *continued*

INTERPRETING OBSERVATIONS

Read the following scenario, and answer the questions below.

Imagine that a population of rabbits was released during the winter into an ecosystem that is covered with snow most of the year. Fifty percent of the rabbits were dark gray and 50 percent of the rabbits were white. The only animal in the ecosystem that eats rabbits is a species of hawk.

The next winter, scientists visit the area and observe the rabbit population. As expected, the overall rabbit population has grown and the percentage of white rabbits has increased.

- 11.** Explain what probably caused the increase in the percentage of white rabbits.

- 12.** Predict what would happen to the rabbit population if the climate changed and the ecosystem only had snow a few months out of the year. Explain your answer.

- 13.** Use a rabbit population as an example to explain Darwin's theory of evolution by natural selection.

Critical Thinking *continued*

AGREE OR DISAGREE

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

14. A tiny Chihuahua and a huge Great Dane have no common ancestors.

15. Prescribing antibiotics for every human disease will help eliminate diseases caused by bacteria.

16. A community can contain two populations of the same species.

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.

- 17.** A family has an infestation of ants and wants to get rid of them. Why are insect pests difficult to control?

- 18.** A friend says that it does not matter what happens in other ecosystems and that you won't be affected because you live in the city. Do you think your friend is right? Justify your answer.

- 19.** It is safer to eat mushrooms grown on farms because many mushrooms that grow in the wild are poisonous. Imagine that to ensure that no one ate poisonous mushrooms, chemicals were used to kill fungi in a forest. How would this affect the forest ecosystem? Explain your reasoning.
