

Skills Worksheet

# Critical Thinking

## Work-Alikes

In the space provided, write the letter of the term or phrase that best describes how each numbered item functions.

- |  |   |
|--|---|
| <p>_____ 1. scientific name</p>                | <p>a. different kinds of trees growing bent instead of straight because of the wind</p>     |
| <p>_____ 2. eight levels of classification</p> | <p>b. a person's last name and first name</p>   |
| <p>_____ 3. convergent evolution</p>           | <p>c. family tree</p>   |
| <p>_____ 4. cladogram</p>                      | <p>d. a child's toy block set in which small blocks fit into successively larger blocks</p> |

## Cause and Effect

In the space provided, write the letter of the term or phrase that best matches each cause or effect given below.

- | Cause   | Effect                                 |  |
|---|--|--|
| 5. _____  | Linnaeus devised binomial nomenclature | a. analogous characters                                  |
| 6. unique set of characteristics in a particular set of organisms | _____                                  | b. phylogenetics   |
| 7. _____  | convergent evolution                   | c. polynomials were very long and awkward                |
| 8. physical similarities may not imply evolutionary relatedness   | _____                                  | d. many organisms have been reclassified in recent years |
| 9. subjective analysis of evolutionary relationships              | _____                                  | e. cladistics  |

Critical Thinking *continued***Trade-offs**

In the space provided, write the letter of the bad news item that best matches each numbered good news item below.

**Good News**

- \_\_\_\_\_ 10. Analysis of DNA, RNA, and proteins provide data for cladistics.
- \_\_\_\_\_ 11. Most biologists recognize three domains and six kingdoms.
- \_\_\_\_\_ 12. A cladogram is very objective.

**Bad News**

- a. It does not take into account the strength of a character.
- b. These will change as new knowledge and techniques reveal previously unknown similarities.
- c. It is not easy to do it because it requires the study of molecules.

**Linkages**

In the spaces provided, write the letters of the two terms or phrases that are related by the term in the middle. The choices can be placed in any order. Some choices may be used more than once.

- |                                |   |
|--------------------------------|---|
| 13. _____ phylum _____         | a. kingdom  |
| 14. _____ family _____         | b. <i>Panthera pardus</i>                               |
| 15. _____ genera (genus) _____ | c. derived characters                                   |
| 16. _____ Felidae _____        | d. Archaea  |
| 17. _____ domains _____        | e. Eukarya  |
| 18. _____ cladogram _____      | f. genus  |
|                                | g. Carnivora  |
|                                | h. species  |
|                                | i. evolutionary relationships among groups of organisms |
|                                | j. class  |
|                                | k. order  |
|                                | l. family   |

Critical Thinking *continued*

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## Analogies

**An analogy is a relationship between two pairs of terms or phrases written as  $a : b :: c : d$ . The symbol  $:$  is read as “is to,” and the symbol  $::$  is read as “as.” In the space provided, write the letter of the pair of terms that best completes the analogy shown.**

- \_\_\_\_\_ 19. native language : common name ::
- a. British : scientific name
  - b. Latin : scientific name
  - c. English : common name
  - d. Latin : common name
- \_\_\_\_\_ 20. two : scientific name ::
- a. three : kingdom
  - b. eight : biological classification
  - c. two : family
  - d. three : scientific name