

## 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."

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| <p>_____ 1. coal dust : black lung disease ::<br/>a. lead : learning problems<br/>b. particulates : gastrointestinal infections<br/>c. pesticides : farming<br/>d. bacteria in food : influenza</p> <p>_____ 2. dose : response ::<br/>a. chemical : pollution<br/>b. air : lungs<br/>c. accident : injuries<br/>d. snail : vector</p> <p>_____ 3. radon : granite bedrock ::<br/>a. particulates : water<br/>b. selenium : soil<br/>c. gasoline : vehicles<br/>d. asthma : lungs</p> <p>_____ 4. wastewater : toxic chemicals ::<br/>a. drinking water : bath water<br/>b. particulates : air<br/>c. bath water : bathing<br/>d. raw sewage : pathogens</p> <p>_____ 5. toxic chemicals : health problems ::<br/>a. bacteria : pathogens<br/>b. pathogens : infectious diseases<br/>c. rain : clouds<br/>d. disease : soil erosion</p> | <p>_____ 6. bacteria : antibiotics ::<br/>a. Lyme disease : habitat destruction<br/>b. vector : cross-species transfer<br/>c. virus : vaccine<br/>d. malaria : global warming</p> <p>_____ 7. mosquitoes : malaria ::<br/>a. fish : cholera<br/>b. emerging viruses : AIDS<br/>c. bacteria : tuberculosis<br/>d. snails : schistosomiasis</p> <p>_____ 8. rodent : hanta virus ::<br/>a. dog : hookworm<br/>b. smoking : lung cancer<br/>c. resistance : pesticides<br/>d. duck : Hong Kong flu</p> <p>_____ 9. directly by pollution : indirectly by pollution ::<br/>a. river blindness : tuberculosis<br/>b. asthma : lung cancer<br/>c. lead poisoning : cholera<br/>d. birth defects : brain damage</p> <p>_____ 10. epidemiology : disease ::<br/>a. cooking : eating a meal<br/>b. collecting wastes : landfills<br/>c. farming : using pesticides<br/>d. detective work : crime</p> |
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**Critical Thinking** *continued*

**INTERPRETING OBSERVATIONS**

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

West Nile virus is an emerging virus that infects humans, horses, and birds, as well as other animals. Mosquitoes are the vector for West Nile virus. In 2001, there had never been a case of West Nile virus in any human or other animal in Illinois, although birds on the East Coast of the United States had been found with the virus the year before. By the end of summer in 2002, many humans, birds, and horses had been infected.

**11.** What makes West Nile virus an emerging virus?

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**12.** How do you think the West Nile virus got to Illinois and infected humans? Explain your answer.

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**13.** How can people help protect themselves from West Nile virus?

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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.**

**14.** Forest fires are always a natural source of pollutants.

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**15.** Industrial chemicals have no effect on people's health unless people work in or live near factories.

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**16.** A friend of yours recycles aluminum, glass, cardboard, and newspapers, and she never litters. She claims that she does not cause any pollution. Do you agree or disagree with her? Defend your answer.

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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.**

- 17.** Epidemiologists predict that the greatest threat to human health may be the outbreak of a new, very virulent strain of influenza virus. What kind of environment would increase the spread of this virus? Justify your answer.

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- 18.** What makes virus-caused diseases difficult to treat and control? Why are some bacterial diseases becoming more difficult to treat?

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- 19.** A city has an outbreak of a disease. Using epidemiology, what steps should health workers take?

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