

Skills Worksheet

Critical Thinking**ANALOGIES**

Mark the letter of the pair of terms 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. dam : reservoir ::
a. road closure : traffic jam
b. braces : teeth
c. farms : runoff
d. groundwater : aquifer
- _____ 2. fertilizer : artificial eutrophication ::
a. wastewater : point-source pollution
b. oxygen : thermal pollution
c. biomagnification : pesticides
d. point-source : water pollution
- _____ 3. aquifer : land ::
a. surface water : well
b. river : ocean
c. dam : river
d. potable : pathogen
- _____ 4. pathogens : viruses ::
a. porosity : groundwater
b. dead fish : thermal pollution
c. DDT : food chain
d. ocean pollution : oil spill
- _____ 5. non point-source : point-source ::
a. few : many
b. few : one
c. many : one
d. one : few
- _____ 6. salt water : desalinate ::
a. recharge zone : percolate
b. nonpotable water : chlorinate
c. unwanted gases : aerate
d. alum : coagulate
- _____ 7. oil spills : ocean pollution ::
a. river : water diversion
b. nutrient runoff : eutrophication
c. waste : conservation
d. agriculture : evaporation

Critical Thinking *continued*

INTERPRETING OBSERVATIONS

Read the following passage, and answer the questions below.

At one time, most of the people living in Bangladesh depended upon surface water for their fresh water needs. This water was contaminated with pathogens that caused a high incidence of disease and death in the population. A system of rural wells was then built to provide safe drinking water for most of the people in Bangladesh. Now Bangladesh is trying to respond to another crisis. These new wells draw groundwater that is contaminated with arsenic. According to the World Health Organization, an estimated 35 to 77 million of the total 125 million residents are at risk of drinking arsenic-contaminated water. Drinking water with a high concentration of arsenic can cause a variety of illnesses, including lung, bladder, and skin cancers. Adding alum is a simple and inexpensive way to remove most of the arsenic from drinking water. This method is one of several temporary solutions that are being used to reduce the level of arsenic and to make the water usable.

- 8.** The diagram in this chapter shows how alum is used in large-scale treatment of drinking water. How could a single household or village use this method to treat well water?

- 9.** Arsenic is one of several heavy metals known to affect supplies of drinking water. Describe a situation in which a heavy metal could affect your local water supply.

- 10.** Identify and describe a possible solution to treating the surface water so that it can be consumed safely.

Critical Thinking *continued*

AGREE OR DISAGREE

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

11. Water exists in two different forms.

12. Drip irrigation makes farming more efficient.

13. Aquifers are environmentally sensitive structures, even though they are made of materials like rock, sand, and gravel.

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.

14. What are three positive effects of diverting or stopping the flow of river water?

15. What are three negative effects of diverting or stopping the flow of river water?

16. How can some water be used even if it isn't clean enough to drink?

17. Explain why it is difficult to reduce or prevent nonpoint-source pollution.
