MATCHING
In the space provided, write the letter of the term or phrase that best matches the description.

1. Mississippi River
2. area above an aquifer
3. bottled water
4. bacteria
5. multiple sources
6. fertilizer runoff
7. law designed to improve water quality
8. surface water that percolates through soil

MULTIPLE CHOICE
In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

9. Ninety-seven percent of the world’s water resources are found in
   a. fresh water.       c. icecaps and glaciers.
   b. salt water.       d. groundwater.

10. Earth’s surface water is found in
    a. lakes.            c. streams.
    b. rivers.          d. All of the above

11. Most of the oil that pollutes the ocean comes from
    a. operating boats and personal watercraft.
    b. spills from oil tankers.
    c. runoff from cities and towns.
    d. leaking underground storage facilities.

12. The three major global uses of fresh water are
    a. manufacturing goods, wastewater disposal, and irrigation.
    b. drinking, bathing, and growing crops.
    c. drinking, manufacturing goods, and generating power.
    d. residential, agricultural, and industrial uses.
**Concept Review continued**

13. What is the purpose of adding alum to water during the water treatment process?
   a. to filter and remove large organisms and trash
   b. to form flocs that bacteria and other impurities will cling to
   c. to prevent bacterial growth
   d. to remove unwanted gases

14. How is fresh water used in industry?
   a. in manufacturing processes
   b. in the disposal of waste products
   c. to generate power
   d. all of the above

15. Many areas of the world that do not have adequate fresh water have become habitable because
   a. rainfall patterns have changed.
   b. water management projects have diverted water to the areas.
   c. icebergs have been towed in to provide fresh water.
   d. people have practiced water conservation.

16. A hole that is dug into the ground to obtain fresh water is called
   a. the recharge zone.
   b. a well.
   c. an aquifer.
   d. a watershed.

17. Which of the following is one way that a person can conserve water?
   a. Take a bath instead of a shower.
   b. Wash laundry in small, partial loads.
   c. Use a low-flow shower head to take short showers.
   d. Water the lawn daily and at mid-day.

18. Which of the following is a source of point-pollution?
   a. unlined landfill
   b. runoff from city streets
   c. precipitation containing air pollution
   d. runoff from farms

19. Animal feces would be classified as which type of water pollutant?
   a. pathogens
   b. organic matter
   c. inorganic chemicals
   d. heavy metals

20. Polluted groundwater is difficult to clean up because
   a. groundwater is deep in the ground and dispersed through large areas of rock.
   b. pollutants cling to the materials that make up the aquifer and contaminate the clean water.
   c. the recycling process of groundwater can take hundreds or thousands of years.
   d. All of the above
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.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
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________________________________________________________________________
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.

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
This map shows just a few of the many sources of water in and around Canada. In addition to being necessary for human life, water is also an important means of transportation. Before cars, trains, and airplanes were invented, water provided the fastest way to move people and goods.

Use the map above to answer the questions below.

1. **Finding Locations** What is the northernmost body of water on the map? What city is closest to that body of water?

2. **Inferring Relationships** Near which body of water in Canada are the most cities located?

3. **Inferring Relationships** What is similar about the locations of all the cities on the map?

4. **Making a Hypothesis** Toronto is the most populous city in Canada. What aspects of its location do you think helped its population to grow?