Skills Worksheet

Concept Review

MATCHING

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

_____ **1.** ground-level ozone

_____ **2.** scrubber

_____ **3.** radon gas

_____ **4.** nitrogen oxides

_____ **5.** decreased pH

_____ **6.** possible long-term effect of air pollution

_____ **7.** necessary to control acid precipitation

_____ **8.** atmospheric condition trapping pollution

_____ **9.** possible short-term effect of air pollution

_____ **10.** possible long-term effect of noise pollution

a. primary pollutant

b. secondary pollutant

c. indoor air pollution

d. pollution control

e. acid precipitation

f. temperature inversion

g. lung cancer

h. deafness

i. international agreement

j. nausea

MULTIPLE CHOICE

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

_____ **11.** Which of the following is an example of a primary pollutant?
a. ground-level ozone
b. soot from smoke
c. radon
d. All of the above

_____ **12.** Which of the following would be a potential cause of sick-building syndrome?
a. acid precipitation
b. smog
c. fungi
d. all of the above

| Concept Review *continued*

_____ **13.** Catalytic converters, scrub-
bers, and electrostatic pre-
cipitators are examples of
   a. technologies used to treat
sick-building syndrome.
   b. technologies used to
counteract the effects of
acid precipitation on
aquatic ecosystems.
   c. technologies used to cap-
ture radon gas.
   d. technologies used to con-
trol pollution emissions.

_____ **14.** During a temperature
inversion,
   a. sulfur oxides and nitro-
gen oxides combine with
water in the atmosphere.
   b. an influx of acidic water
causes a rapid change in
the pH of water.
   c. levels of ground-level
ozone decrease.
   d. pollutants are trapped
near Earth's surface.

_____ **15.** What is *not* a consequence
of acid precipitation?
   a. an increase in the pH of
soil and water
   b. the death of aquatic
plants and animals
   c. the destruction of cal-
cium carbonate in build-
ing materials
   d. a change in the balance of
soil chemistry

_____ **16.** High blood pressure and
stress are both human
health effects linked to
   a. smog.
   b. air pollution.
   c. light pollution.
   d. noise pollution.

_____ **17.** Oil refineries and gasoline
stations are both sources of
   a. particulate matter.
   b. volatile organic
compounds.
   c. smog.
   d. All of the above

_____ **18.** Uranium-bearing rocks
underneath a house can be a
source of
   a. ozone.
   b. asbestos.
   c. radon.
   d. formaldehyde.

_____ **19.** An increase in the pH of a
lake would most likely
indicate
   a. the lake suffers from acid
shock.
   b. calcium carbonate has
been released into the
lake.
   c. the area in which the lake
is located suffers from
acid precipitation.
   d. higher than average sulfur
oxide levels in the
atmosphere.

_____ **20.** Acid precipitation is formed
when
   a. sulfur oxides or nitrogen
oxides combine with
water.
   b. sulfur oxides combine
with nitrogen oxides.
   c. ozone combines with
automobile exhaust.
   d. nitric or sulfuric acids
combine with ozone.

Answer Key

Concept Review

MATCHING

1. b
2. d
3. c
4. a
5. e
6. g
7. i
8. f
9. j
10. h

MULTIPLE CHOICE

11. b
12. c
13. d
14. d
15. a
16. d
17. b
18. c
19. b
20. a

Critical Thinking

ANALOGIES

1. b
2. b
3. a
4. d
5. d
6. b
7. c
8. a
9. b
10. d

INTERPRETING OBSERVATIONS

11. The higher the sulfate levels in the lake, the lower the size of the fish harvest.

12. No, the tests do not prove that acidification is causing the decline of the fish population for two reasons. First, there is no proof that sulfate levels affect fish populations. Second, there is no way to know that the fish harvest would not have declined without the addition of sulfates to the lake. In other words, without more data it is impossible to know if the fish harvest was already declining, presumably for other reasons.

AGREE OR DISAGREE

13. Answers may vary. Sample answer: Disagree. While lifestyle choices do lead to serious respiratory diseases, environmental factors such as air pollution costs Americans around tens of billions of dollars a year in health care costs.

14. Answers may vary. Sample answer: Agree. Mass transportation would help to decrease the amount of automobiles used, leading to a decrease in the amount of carbon dioxide released. Carbon dioxide released by motorized vehicles is one of the largest primary sources of air pollution in the world.

15. Answers may vary. Sample answer: Agree. The atmosphere is in constant circulation. That means that pollution released into the air over one country will eventually move over another country. Therefore, countries should work together to solve global air pollution concerns.

16. Answers may vary. Sample answer: Disagree. Noise pollution can lead to permanent deafness and high blood pressure, which can cause serious damage to the cardiovascular system. Furthermore, noise pollution leads to stress, which has been linked to many chronic diseases.

REFINING CONCEPTS

17. Accept any reasonable response. Sample answer: Instead of new carpeting, they should install a hard-surfaced floor that can be cleaned easily; new carpeting may encourage the growth of new mold, plus it may give off indoor air pollutants such as formaldehyde. They must clean the air ducts because those may be the source of mold and fungus spores, and they must check that the air ducts are bringing in outside air. They should take care of the air ducts first to make sure that ventilation during renovations is adequate. In addition, sealing up all the cracks in the building may aggravate the air-quality problem.