Name _____ Class _____ Date _____

Skills Worksheet

# Study Guide - Ch12

## 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

_____ 13. Catalytic converters, scrubbers, and electrostatic precipitators 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 capture radon gas.
d. technologies used to control pollution emissions.

_____ 14. During a temperature inversion,
a. sulfur oxides and nitrogen 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 calcium carbonate in building 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.

# CHAPTER 12 Review

## Reviewing Key Terms

Use each of the following terms in a sentence.

1. *air pollution*
2. *smog*
3. *temperature inversion*
4. *sick-building syndrome*
5. *pH*

For each pair of terms, explain how the meanings of the terms differ.

6. *primary pollutant* and *secondary pollutant*
7. *asbestos* and *radon*
8. *pH* and *acid precipitation*
9. *acidification* and *acid shock*
10. **Concept Map** Use the following terms to create a concept map: *air pollution*, *primary pollutant*, *volatile organic compound*, *scrubber*, *secondary pollutant*, *smog*, and *temperature inversion*.

## Reviewing Main Ideas

11. Which of the following air pollutants is *not* a primary pollutant?
    a. particulate matter
    b. ozone
    c. sulfur dioxide
    d. volatile organic compounds

12. A device used to clean exhaust gases before they exit an automobile's tailpipe is called a(n)
    a. electrostatic precipitator.
    b. catalytic converter.
    c. scrubber.
    d. None of the above

13. The majority of sulfur dioxide produced by industry comes from
    a. oil refineries.
    b. dry cleaners.
    c. chemical plants.
    d. coal-burning power plants.

14. Which of the following substances is *not* involved in the chemical reaction that produces smog?
    a. sunlight
    b. particulate matter
    c. automotive exhaust
    d. ozone

15. Which of the following respiratory diseases is considered a long-term effect of air pollution on human health?
    a. emphysema
    b. bronchitis
    c. pneumonia
    d. all of the above

16. Which of the following substances is a colorless, tasteless, and odorless radioactive gas?
    a. asbestos
    b. carbon monoxide
    c. radon
    d. ozone

17. A sound measuring 40 dB has how many times the intensity of a sound that measures 10 dB?
    a. 4 times
    b. 30 times
    c. 400 times
    d. 1,000 times

18. Which of the following choices is *not* an effective solution to the energy waste related to inefficient lighting?
    a. using low-pressure sodium lighting sources
    b. pointing lights on billboards and street signs upward
    c. placing light sources on time controls
    d. shielding light to direct it downward

19. Which of the following numbers on the pH scale would indicate that a substance is acidic?
    a. 5.0
    b. 7.0
    c. 9.0
    d. none of the above

20. Normal precipitation has a pH of
    a. 7.0.
    b. 5.6.
    c. 5.1.
    d. 4.5.