**Chapter 12**

**Air, Study Guide**

**Matching:**

|  |  |
| --- | --- |
| 1. primary pollutants | d. temperature inversions |
| 1. ZEVs | e. Clean Air Act |
| 1. smog | f. sea coal |

1. Have no emissions from tailpipes or gasoline
2. Results from chemical reactions involving sunlight, air, exhaust, and ozone
3. Scrubbers and electrostatic precipitators help industries meet the requirements of this
4. Put directly into the air by human activity
5. A source of air pollution before modern times
6. Atmospheric condition that traps pollution near the ground

**Multiple Choice and Free Response:**

1. Which is a secondary air pollutant?
   1. Ozone
   2. Carbon monoxide
   3. Particulate matter
   4. Nitrogen oxides
2. What is the name of a device that helps clean car exhaust?
3. Which is a natural indoor air pollutant?
   1. Carbon monoxide
   2. Formaldehyde
   3. Nitrogen oxides
   4. Radon
4. Which is true of air pollution and human health?
   1. Years of research link air pollution to lung diseases
   2. Air pollution is commonly listed as a cause of death
   3. None of the health effects of air pollution are reversible
   4. Healthy adults are most affected by air pollution
5. What is the name of an air pollutant that scars the lungs?
6. Which has NOT been linked to acid precipitation?
   1. Toxic metal poisoning
   2. Lower blood pH
   3. Respiratory problems
   4. Damaged monuments
7. Which is a cause of acid precipitation?
   1. Sulfur and nitrogen oxides
   2. Carbonic acid
   3. High pH in rainfall
   4. Acid shock
8. Which is NOT an effect of acid precipitation on aquatic ecosystems?
   1. Death of animals and plants
   2. Lower reproduction rates
   3. Suffocation of fish
   4. Increased growth of algae
9. Precipitation is considered acid if its pH is
   1. Above 7.0
   2. Above 5.0
   3. Below 5.0
   4. Below 5.6
10. All of the following are primary pollutants EXCEPT
    1. Carbon monoxide
    2. Nitric acid
    3. Sulfur oxides
    4. VOCs
11. Which of the following industries is the largest producer of primary air pollutants in the United States?
    1. Electricity production
    2. Healthcare
    3. Transportation
    4. Agriculture
12. Temperature inversions work to trap pollution when
    1. Cool air above keeps warmer air at the surface from moving upwards
    2. Cool air above keeps warmer air at the surface from absorbing solar radiation
    3. Warm air above keeps cooler air at the surface from absorbing solar radiation
    4. Warm air above keeps cooler air at the surface from moving upward
13. The following ailments are long-term effects of air pollution EXCEPT
    1. Emphysema
    2. Lung cancer
    3. Headaches
    4. Heart disease
14. Light pollution can be decreased by
    1. Directing light downward
    2. Lighting billboards from below
    3. Using incandescent light bulbs
    4. Increasing the number of lights per block on a city street
15. Acid precipitation can be traced back to
    1. Burning of fossil fuels
    2. The use of electrostatic precipitators
    3. Thermal inversions
    4. The release of particulate matter into the atmosphere
16. Acid shock can be treated by
    1. Decreasing the pH of the affected water to 2.0
    2. Pouring sulfuric acid into the affected water
    3. Adding powdered aluminum to the affected water
    4. Adding powdered lime to the affected water
17. The 1991 Canada-U.S. Air Quality Agreement is meant to
    1. Reduce the acidic emission flowing across the Canada-U.S. boundary
    2. Increase the use of alternative fuel sources
    3. Set up a joint meteorological research council
    4. Protect the ozone layer
18. Uranium bearing rocks underneath a house can be a source of
    1. Ozone
    2. Asbestos
    3. Radon
    4. Formaldehyde

**Matching:**

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| --- | --- |
| 1. Indoor air pollution | 1. Long-term effects of air pollution |
| 1. Sick building syndrome | f. Short-term effects of air pollution |
| 1. Light pollution |  |
| 1. Noise pollution |  |

1. Causes stress, high blood pressure, hearing loss
2. Solutions include shielding, time controls, and low-pressure sodium sources
3. Emphysema, lung cancer, heart disease
4. Can occur in tightly sealed buildings
5. Sources include plastics, carpets, cleaning fluids, radon, and asbestos
6. Headache, eye irritation, coughing, bronchitis

**Matching:**

|  |  |
| --- | --- |
| 1. Primary pollutant | f. temperature inversion |
| 1. Secondary pollutant | g. lung cancer |
| 1. Indoor air pollution | h. deafness |
| 1. Pollution control | i. international government |
| 1. Acid Precipitation | j. nausea |

1. Ground-level ozone
2. Scrubber
3. Radon gas
4. Nitrogen oxides
5. Decreased pH
6. Possible long-term effects 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