

Chapter 9 Drill

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case. For answers and explanations, see Chapter 13.

- Which of the following is NOT a direct source of groundwater pollution?
 - Automobile exhaust
 - Wastewater lagoons
 - Underground storage tanks
 - Waste injected into deep wells
- Which of the following cities has the greatest amount of gray-air smog?
 - New York, New York
 - Beijing, China
 - Los Angeles, California
 - Chicago, Illinois
- All of the following are true about sanitary landfills EXCEPT that they
 - have methods of monitoring leaks in the clay and plastic liners
 - pipe generated methane gas to storage tanks
 - pump leachate out of the landfill for treatment and disposal
 - are built so that trash sits on top of the land
- Which of the following correctly explains what happens to the level of oxygen dissolved in water when organic waste is put in the water?
 - The level remains the same after the waste is added.
 - The level increases because of the availability of nutrients to animals that live in the water.
 - The level decreases because of the bacteria feeding off the waste and using the oxygen to live.
 - The level decreases because of the waste absorbing the oxygen.
- An abundance of which of the following creatures (and a lack of other creatures) would indicate that water is polluted?
 - Trout and other game fish
 - Sludge worms, anaerobic bacteria, and fungi
 - Carp, gar, and leeches
 - Salamanders and turtles
- Which of the following is the most common way of disposing of municipal solid waste?
 - Recycling
 - Composting
 - Placing in landfills
 - Burning
- Which of the following gases involved in global climate change is increasing in the atmosphere at the fastest rate?
 - H₂O
 - Methane
 - Chlorofluorocarbons
 - CO₂
- Which of the following choices gives the correct order of processing sanitary waste in a sewage treatment plant?
 - Disinfection—breakdown of organics by bacteria—solid separation
 - Solid separation—breakdown of organics by bacteria—disinfection
 - Solid separation—disinfection—breakdown of organics by bacteria
 - Breakdown of organics by bacteria—solid separation—disinfection
- Which of the following is a secondary pollutant?
 - CO
 - Soot
 - VOCs
 - PANs
- The United States hopes to build a nuclear waste disposal site in
 - Wheeling, West Virginia
 - Yucca Mountain, Nevada
 - Gallup, New Mexico
 - Hudson, New York
- Oxides of nitrogen create the pollutant
 - nitric acid
 - nitrogen gas
 - sulfuric acid
 - carbonic acid

12. In comparison to the surrounding rural areas, cities are
- (A) cooler than the rural areas
 - (B) the same temperature as the rural areas
 - (C) hotter than the rural areas
 - (D) incomparable to the surrounding areas as far as temperatures
13. Which of the following are two of the most deadly and common indoor air pollutants in developed countries?
- (A) Soot and VOCs
 - (B) CO₂ and methane
 - (C) Nitric acid and sulfuric acid
 - (D) Radon and tobacco smoke
14. Which of the following is NOT a consequence of stratospheric ozone depletion?
- (A) UV damage that kills primary producers in the food chain
 - (B) Fewer crops and fish
 - (C) Human and animal respiratory irritation
 - (D) Weaker human immune systems
15. The dosage at which a negative effect of a toxin occurs is called the
- (A) threshold dose
 - (B) dose-response analysis
 - (C) LD₅₀
 - (D) ED₅₀

Free-Response Question

1. Photochemical smog is one of the most common forms of air pollution today.
 - (a) **Identify** TWO primary pollutants that cause photochemical smog. **Describe** how they are produced.
 - (b) **Identify** TWO secondary pollutants that make up photochemical smog. **Describe** how they are produced.
 - (c) Give ONE reason why photochemical smog is more likely to be found in industrialized nations and gray-air smog is more likely to be found in non-industrialized nations.
 - (d) Give ONE component of photochemical smog that affects human health. **Explain** its consequences.