CHAPTER 13

RESPIRATION AND EXCRETION

SECTION 13–1 The Respiratory System (pages 430–438)

This section describes the parts of the respiratory system and how they work to help you breathe and speak.

▶ Introduction (page 430)

1. What are two functions of the respiratory system?
   a. _____________________________________________________
   b. _____________________________________________________

▶ Why the Body Needs Oxygen (pages 430–431)

2. The chemical reactions to release energy that take place inside your cells must have ________________.

3. What is respiration? ____________________________________________________
   ____________________________________________________
   ____________________________________________________

4. List three products of respiration.
   a. _________________   b. _________________   c. _________________

5. Is the following sentence true or false? To a scientist, breathing and respiration mean the same thing. ________________

6. Circle the letter of each organ system that the respiratory system depends on.
   a. circulatory system       b. reproductive system
   c. excretory system        d. digestive system
7. Circle the letter of each sentence that is true about oxygen.
   a. The air you breathe is part of the atmosphere, the blanket of gases that surrounds Earth.
   b. Oxygen makes up about 78 percent of the gases in the atmosphere.
   c. Your body uses all of the air that you breathe into your lungs.
   d. Most of the air you breathe in goes back into the atmosphere when you exhale.

8. Is the following sentence true or false? When you breathe in air, you also breathe in dust, pollen, and microorganisms. ________________

9. Complete the flowchart to show the path of air as it travels to the lungs.

10. What does a sneeze do? ________________________________

11. Another name for the pharynx is the ________________.
Match the parts of the nose with their functions.

<table>
<thead>
<tr>
<th>Parts</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. nostrils</td>
<td>a. Moistens the air and traps particles in the air</td>
</tr>
<tr>
<td>13. nasal cavities</td>
<td>b. Openings in the nose through which air enters</td>
</tr>
<tr>
<td>14. mucus</td>
<td>c. Tiny hairlike extensions that sweep mucus into the throat</td>
</tr>
<tr>
<td>15. cilia</td>
<td>d. Contain blood vessels that heat the air you breathe in</td>
</tr>
</tbody>
</table>

16. Circle the letter of each body part that is connected to the pharynx.
   a. stomach  b. nose  c. mouth  d. ears

17. The walls of the trachea are made up of rings of _______________ that strengthen the trachea and keep it open.

18. Is the following sentence true or false? The cilia and mucus in the trachea sweep upward, moving the mucus toward the nose where it is sneezed out. _______________

19. If food enters the trachea, a person can _______________.

20. Circle the letter of the main organs of the respiratory system.
   a. trachea  b. bronchi  c. lungs  d. alveoli

21. Is the following sentence true or false? Inside the lungs, each bronchus divides into smaller and smaller tubes. _______________

22. What happens in the alveoli? _______________

Structure and Function in Gas Exchange (page 435)

23. What occurs during the process of gas exchange? _______________

__________________________

__________________________
24. Why can the lungs absorb a large amount of oxygen? ________________

How You Breathe (pages 436–437)

25. Is the following sentence true or false? The more oxygen you need, the more slowly you breathe. ________________

26. What is the diaphragm? ________________

27. Complete the cycle diagram to show the process of breathing.

Rib muscles and diaphragm contract, making the chest cavity ________________.

The air is squeezed out of the lungs ________________, and you exhale.

The rib muscles and diaphragm relax, and the chest cavity becomes ________________.

Air rushes into the lungs, and you

How You Speak (pages 437–438)

28. Another name for the voice box is the ________________.

29. What are vocal cords? ________________

______________________________

______________________________
30. How do vocal cords create your voice?

Taking notes while you read is a very helpful way to remember what you have read. To take notes, write down the headings in the section. Under each heading, write the main idea and important details that you read about. You should also include the key terms and their definitions in your notes. Reread this section. As you read, take notes about what you are reading. Do your work on a separate sheet of paper.

**Reading Skill Practice**

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**SECTION 13–2 Smoking and Your Health (pages 440–444)**

This section explains what harmful chemicals are in tobacco smoke and how these chemicals harm the body.

**Chemicals in Tobacco Smoke (pages 440–441)**

1. Complete the table to show the harmful chemicals in tobacco smoke.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>What It Is</th>
<th>How It Harms the Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A drug that produces an addiction, or physical dependence</td>
<td></td>
</tr>
</tbody>
</table>