Name _____ Date _____

GAS EXCHANGE
11-2 The Human Respiratory System

CHAPTER 11

Part I: Vocabulary Review

Complete the paragraph below by filling in each blank with the correct vocabulary term.

The gas-exchange organs in humans are the (1) _____, which fill a large part of the human chest cavity. These organs are separated from the abdominal cavity by the (2) _____, a muscle that forms the floor of the chest cavity. Each lung is enclosed by a double-layered membrane called the (3) _____.

Air usually enters the human respiratory system through the nostrils, which lead into spaces in the nose called the (4) _____. Next, the air travels through the (5) _____, or throat. After leaving the throat, air passes into the voice box, or (6) _____. Stretched across the inside of the voice box are two pairs of membranes called the (7) _____, which enable humans to make sounds.

The voice box runs directly into the (8) _____, or windpipe, which divides into two cartilage-ringed tubes called (9) _____. Each bronchus enters a lung and branches into smaller tubes called (10) _____. These tubes subdivide until they become a group of tiny tubes called (11) _____. Each tiny tube ends in an air chamber that contains several cup-shaped cavities, called (12) _____, where gas exchange takes place.

There are two phases of breathing. (13) _____ draws air into the lungs. (14) _____ forces air out of the lungs.

Part II: Content Review

Reorganize the four events in each group in the order in which they would be likely to occur. Write 1 next to the event that would happen first, 2 next to the event that would happen second, and so on.

15. _____ Air goes through the larynx.
_____ Air goes through the trachea.
_____ Air goes through the nose.
_____ Air goes through the pharynx.

16. _____ Air goes into the bronchioles.
_____ Air goes into the bronchi.
_____ Air goes into the alveoli.
_____ Air goes into the bronchial tubes.

17. _____ Air is forced out of the lungs.
_____ Chest cavity becomes larger.
_____ Gas exchange occurs in the alveoli.
_____ Air is drawn into the lungs.

18. _____ Respiratory center of the brain is stimulated.

_____ Rate of breathing increases.

_____ During heavy exercise, lactic acid is produced by muscle cells.

_____ Acidity of the blood increases.

19. _____ Body cells take in oxygen and get rid of carbon dioxide.

_____ Carbon dioxide diffuses out of the blood into the alveoli.

_____ Blood that is rich in carbon dioxide from the body tissues is returned to the lungs.

_____ External respiration occurs.

20. _____ Smokers take in carbon monoxide in cigarette smoke.

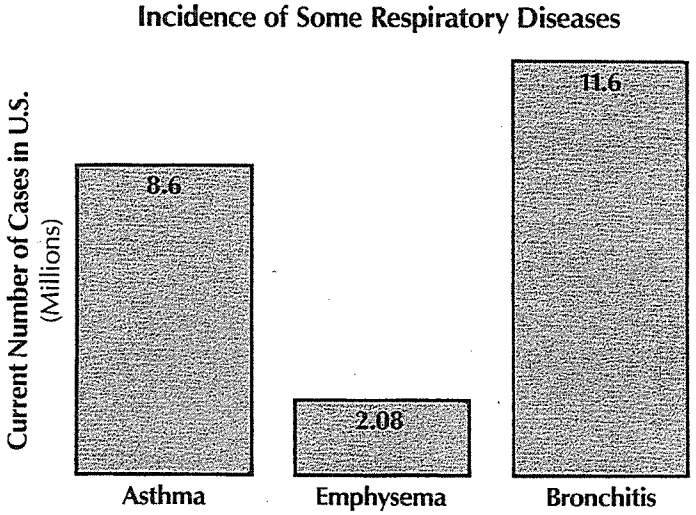
_____ Smokers may experience shortness of breath when they are active.

_____ Hemoglobin picks up carbon monoxide more readily than oxygen.

_____ Oxygen levels drop in an active smoker's blood.

Part III: Skills Development

Review the skill entitled "Graphic Organizing: Bar Graph" on pages 25–29. Then, use the bar graph below to answer the following questions.



21. Which respiratory disease has the greatest number of cases in the United States? _____

22. Approximately how many times greater is the incidence of asthma than is the incidence of emphysema in the United States? _____

23. How many more cases of bronchitis than cases of emphysema are there in the United States? _____

_____