

## **The Respiratory System**

### Section 7.1 Structures of the Respiratory System

1. Name the four most common gases in the atmosphere (What percentage of the atmosphere does each make up?) /4
2. What is nitrogen in the air used for in your body? /1
3. What is the main function of the human respiratory system? /2
4. State the two main requirements for respiration to occur. /2
5. The stages in respiration are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. /4
6. Identify the site of exchange in external respiration: \_\_\_\_\_ and \_\_\_\_\_; and the site of exchange in internal respiration: \_\_\_\_\_ and \_\_\_\_\_. /4
7. Draw and label a diagram of the respiratory system inside the thoracic cavity: /15
8. Why is it bad to pluck out nose hairs? /1
9. Why is snot good? /1
10. Another word for the windpipe is: \_\_\_\_\_ /1
11. What keeps the trachea from collapsing? /1
12. What reflex kicks in if your epiglottis reflex malfunctions? /1
13. The voicebox, also known as the \_\_\_\_\_ contains two ligaments called the \_\_\_\_\_. When these are more relaxed (and therefore thicker), a \_\_\_\_\_ pitched sound is produced. What causes males voices to 'crack' during puberty? \_\_\_\_\_ /4
14. What is the biggest difference in structure between the bronchi and the bronchioles? /1
15. In what two ways do ciliated cells help to protect the lungs? /2
16. An asthma attack involves the contraction of: \_\_\_\_\_ /1
17. The alveoli is a sac filled with \_\_\_\_\_. The walls of the alveoli are \_\_\_\_\_ cell(s) thick to facilitate \_\_\_\_\_ of gases. There are approximately \_\_\_\_\_ alveoli in each lung. (hint: read the FYI) /4
18. Alveoli are lined with \_\_\_\_\_. Why? /2
19. What is the pleural membrane? /1

### Section 7.2 Breathing and Respiration

20. Gases always move from areas of \_\_\_\_\_ pressure to areas of \_\_\_\_\_ pressure. /2
21. The \_\_\_\_\_ controls the air pressure inside the thoracic cavity. When it is relaxed, pressure is \_\_\_\_\_. When it contracts, pressure is \_\_\_\_\_. /3
22. Draw a picture of a thoracic cavity with a relaxed diaphragm, and then one with a contracted diaphragm. /2
23. What muscles cause the chest to expand and inspire air? /1
24. A collapsed lung is also known as \_\_\_\_\_. (hint: FYI) /1
25. State the five different volumes that are recorded by a spirometer. The graph of this data is called a \_\_\_\_\_. /6
26. In order for gas exchange to occur, the walls of the \_\_\_\_\_ and the \_\_\_\_\_ are one cell thick. /2
27. When oxygen in the air diffuses across the alveoli membrane, it bonds with \_\_\_\_\_ in the red blood cells to form \_\_\_\_\_. This molecule is carried via the RBCs to cells in the body. /2
28. In the cells, \_\_\_\_\_ gas is produced as a by-product of cellular respiration. When this dissolved in fluid (water), \_\_\_\_\_ forms. (Chemical formula: \_\_\_\_\_) /2
29. The carbonic acid dissociates into \_\_\_\_\_ and \_\_\_\_\_ ions. /2