

## **Chapter 14/14a Worksheet & Reading Guide**

1. What are the four main processes of respiration?
2. What is the function of the nose in ventilation?
3. What passes through the pharynx?
4. What are the functions of the larynx?
5. What is the difference between the trachea, bronchi, and bronchioles?
6. What occurs at the alveoli?
7. Why is surfactant important?
8. What are the main muscles of inhalation? What direction does the diaphragm move during inhalation and what happens to the pressure in the lungs?
9. What causes a normal exhalation? What direction does the diaphragm move during exhalation and what happens to the pressure in the lungs?
10. What is the difference between tidal capacity and total lung capacity? Why is residual volume important?
11. What form of membrane transport moves oxygen and carbon dioxide across capillary walls?
12. How does oxygen travel through the blood (2 ways)?
13. How does carbon dioxide travel through the blood (3 ways)?

14. Write down the reversible carbonic acid equation.

15. What happens to the pH of blood when carbon dioxide levels are high? Low?

16. Where are the autonomic breathing centers?

17. Where are the “conscious” breathing centers?

18. What chemical do the main chemoreceptors that regulate breathing detect?

19. How does deep breathing (meditation or yoga) alter the balance between the sympathetic and parasympathetic nervous systems?

20. What parts of the respiratory system are affected by the following and how:

Cold

Influenza

Pneumonia

Tuberculosis

Bronchitis

Emphysema

a severe allergic reaction

asthma

air pollution

smoking

21. What does nicotine do to the body?

22. What are at least 10 reasons why a smoker should quit?