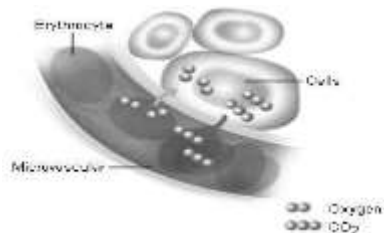
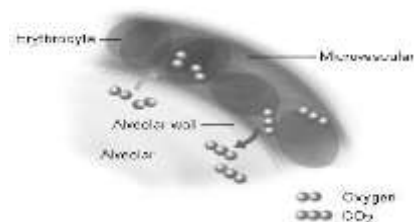


Breathing Cycle Lab: Focus on Respiratory Gases Analysis

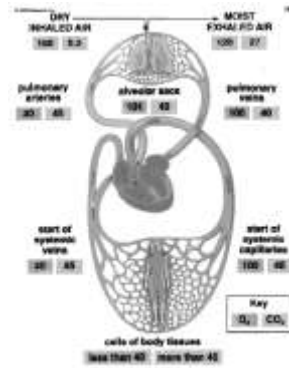
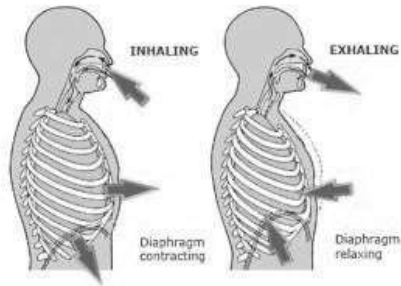
1. What system does the respiratory system function closely with in order to maintain homeostasis?
2. Where in the lungs does gas exchange take place?
3. Explain each of the following steps involved in respiration:
 - a. Ventilation:
 - b. External respiration:
 - c. Transportation:
 - d. Internal respiration:
4. What causes oxygen to move from the alveoli into the blood and carbon dioxide to move from the blood into the alveoli?
5. What causes oxygen to leave the arterioles and enter cells and carbon dioxide to leave cells and enter the arterioles?
6. How would you define gas exchange?
7. What protein on red blood cells delivers oxygen throughout the body?
8. Name the three ways CO₂ is transported throughout the body
 - a.
 - b.
 - c.
9. Identify the step of the breathing cycle represented by each picture using the following words: external respiration, internal respiration, transportation, ventilation.



a. _____



b. _____



c. _____

d. _____

10. On the image right:

- Label the alveolus.
- Label the capillary.
- Color the deoxygenated blood cells blue.
- Color the oxygenated blood cells red.
- Label an arrow that shows the flow of CO_2 .
- Label an arrow that shows the flow of O_2 .

11. Select the best title for this diagram?

- Ventilation
- External Respiration
- Transportation
- Internal Respiration

12. The exchange of gases is occurring because of differences in _____.

13. The gas that is used to make ATP in the body is:

14. The gas that is considered a waste product to the body is:

15. The gas that is most responsible for stimulating increases and decreases in the breathing cycle is:

16. What causes diffusion of gases between the alveoli and the blood?

17. Increases in activity will increase respiration rate. Why?

18. Hyperventilating will decrease respiration rate. Why?

19. Some patients with severe emphysema have constant high levels of CO_2 because of inadequate ventilation. The central nervous system breathing center in these patients becomes insensitive to CO_2 and more dependent on the level of O_2 , which is low. These patients are said to have "oxygen-dependent respiratory drive". What might happen if you give such a person high levels of supplemental O_2 ?

