

SECTION 46-1 REVIEW

THE CIRCULATORY SYSTEM

VOCABULARY REVIEW Distinguish between the terms in each of the following pairs of terms.

1. ventricle, atrium _____

2. sinoatrial node, atrioventricular node _____

3. artery, vein _____

4. pulmonary circulation, systemic circulation _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. Which of the following is most important to the heartbeat?
 - a. aortic valve
 - b. sinoatrial node
 - c. lymph node
 - d. tricuspid valve
- _____ 2. During its circulation from the left atrium to the left ventricle, what percentage of the blood enters the pulmonary circulation?
 - a. 25%
 - b. 50%
 - c. 100%
 - d. None of the above
- _____ 3. Exchange of nutrients and waste between blood and body tissues occurs across
 - a. arterioles.
 - b. capillaries.
 - c. arteries.
 - d. veins.
- _____ 4. Which one of the following characteristics is unique to the pulmonary circulation?
 - a. capillaries that exchange gases with the surrounding tissue
 - b. arteries that carry blood away from the heart
 - c. an artery that originates at the right ventricle
 - d. an artery that originates at the right atrium
- _____ 5. The lymphatic system is important for the normal function of the body because it
 - a. carries newly formed blood to the cardiovascular system.
 - b. returns excess intercellular fluid to the cardiovascular system.
 - c. provides an alternate route for blood during strenuous exercise.
 - d. carries oxygen to the lymph nodes.

SHORT ANSWER Answer the questions in the space provided.

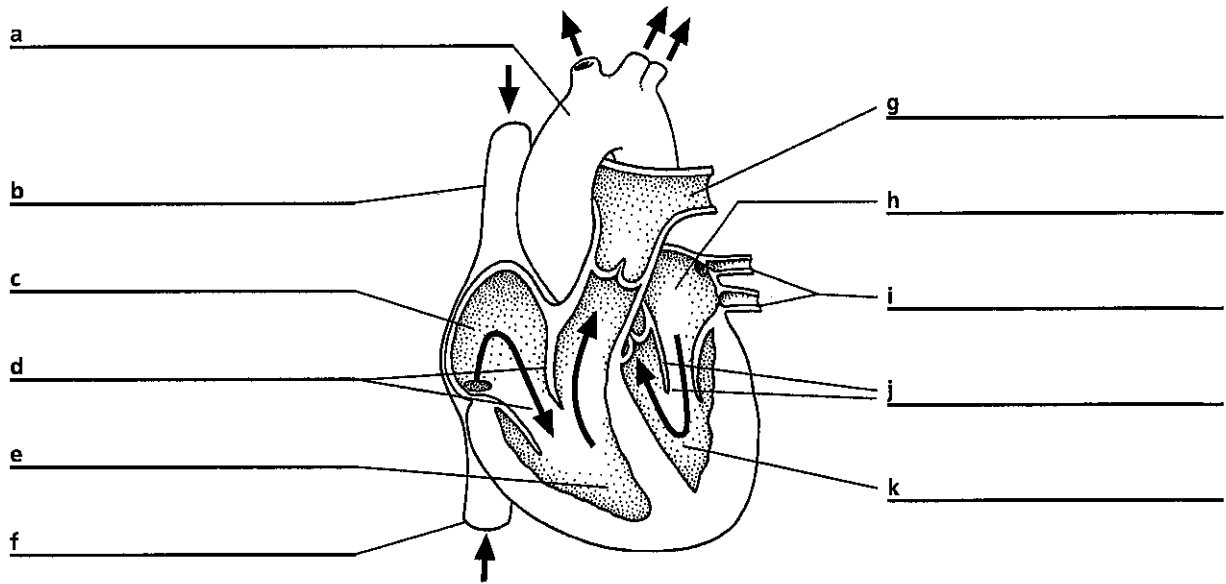
- Trace the flow of blood through the heart. _____

- Describe the function of the lymphatic system. _____

- Critical Thinking** If the aortic valve could not close completely, would the diastolic pressure or systolic pressure be affected the most? Explain your answer. _____

STRUCTURES AND FUNCTIONS Use the figure of the human heart below to answer the following questions.

- Label each part of the figure in the spaces provided.



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- How would a defect of the mitral valve affect circulation? _____

SECTION 46-3 REVIEW

THE RESPIRATORY SYSTEM

VOCABULARY REVIEW Explain the relationship between the terms in each of the following pairs of terms.

1. epiglottis, trachea _____

2. expiration, larynx _____

3. bronchi, bronchioles _____

4. alveoli, inspiration _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. Cilia that line the walls of air passageways
 - a. move the inspired air to the alveoli.
 - b. move the expired air to the nasal cavity.
 - c. moisten the expired air.
 - d. clean the inspired air.
- _____ 2. The exchange of gases that occurs at an alveolus depends on
 - a. elevated blood pressure.
 - b. mucus carrying dissolved oxygen.
 - c. concentration gradients.
 - d. bronchioles closing during expiration.
- _____ 3. Carbon dioxide is transported in the blood
 - a. bound to hemoglobin.
 - b. plasma.
 - c. as bicarbonate ions.
 - d. All of the above
- _____ 4. Inspiration occurs when
 - a. the diaphragm pushes upward.
 - b. thoracic volume increases.
 - c. blood pressure increases.
 - d. thoracic pressure increases.
- _____ 5. The rate of breathing is controlled by cells within
 - a. a specialized node located in the bronchus.
 - b. the diaphragm.
 - c. the brain.
 - d. stretch receptors located between the ribs.

SHORT ANSWER Answer the questions in the space provided.

1. Is the nasal cavity a part of the respiratory system? Explain your answer. _____

2. How is most carbon dioxide transported in the blood? _____

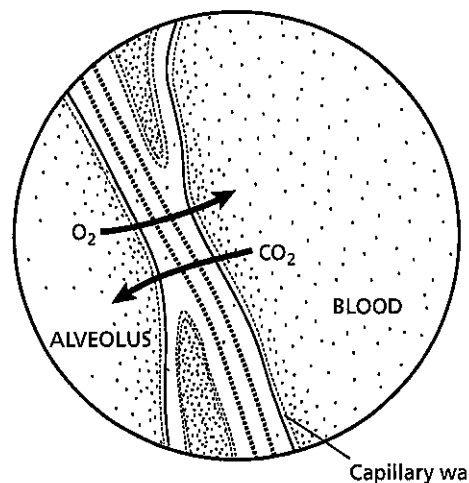
3. Describe how the skeleton is involved with expiration. _____

4. **Critical Thinking** Oxygen deficiency is called hypoxia. Suggest two possible causes of inadequate delivery of oxygen to body tissues. _____

STRUCTURES AND FUNCTIONS Use the figure below to answer the following questions.

1. What drives the diffusion of oxygen into the blood and carbon dioxide from a blood cell to an alveolus?

2. In the lungs, is carbon dioxide more concentrated in the alveoli or in the blood? Explain your answer.



3. Does the exchange of carbon dioxide depend on the concentration of oxygen in the alveoli and the blood? Explain your answer. _____

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