

**SECTION 37-1 REVIEW**

**THE CIRCULATORY SYSTEM**

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

- 1. **ventricle, atrium** \_\_\_\_\_  
\_\_\_\_\_
- 2. **pulmonary circulation, systemic circulation** \_\_\_\_\_  
\_\_\_\_\_
- 3. **atherosclerosis, hypertension** \_\_\_\_\_  
\_\_\_\_\_
- 4. **systolic pressure, diastolic pressure** \_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE Write the correct letter in the blank.**

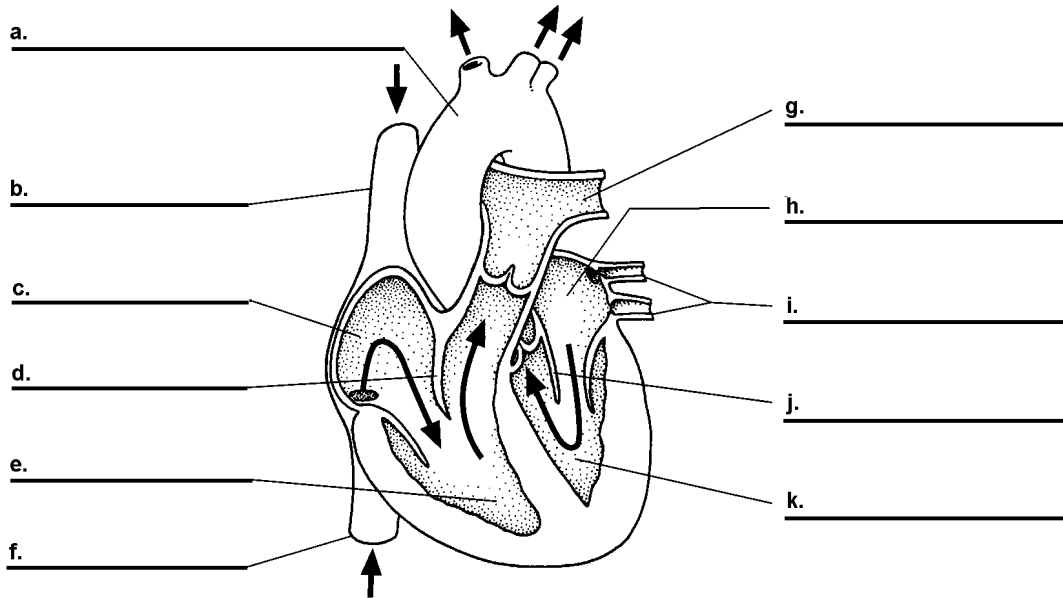
- \_\_\_\_\_ 1. Which of the following is most important to the heartbeat?  
a. aortic valve                      b. pacemaker                      c. lymph node                      d. tricuspid valve
- \_\_\_\_\_ 2. During its circulation from the left atrium to the left ventricle, what percentage of the blood enters the pulmonary circulation?  
a. 0%                                      b. 25%                                      c. 50%                                      d. 100%
- \_\_\_\_\_ 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 carries oxygenated blood from the heart  
d. an artery that carries deoxygenated blood from the heart
- \_\_\_\_\_ 5. The circulatory system is composed of the  
a. lung, heart, and brain.                                      c. lung, blood vessels, and heart.  
b. heart, blood, and blood vessels.                                      d. heart, arteries, and veins.

**SHORT ANSWER** Answer the questions in the space provided.

1. Distinguish between pulmonary circulation and systemic circulation. (p.945) \_\_\_\_\_  
 \_\_\_\_\_
2. Trace the flow of blood through the heart. Start at the right atrium. (p.944) \_\_\_\_\_  
 \_\_\_\_\_
3. What is the major function of all valves in the heart? (p.945) \_\_\_\_\_  
 \_\_\_\_\_
4. If the aortic valve could not close completely, would the diastolic pressure or systolic pressure be affected the most?  
 Explain your answer.? (p.948) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**STRUCTURES AND FUNCTIONS** Use the figure of the human heart below to answer the following questions.  
 (p.944)

1. Label each part of the figure in the spaces provided. Use the following terms: left and right ventricle, left and right atrium, aorta, pulmonary artery and veins, mitral valve, tricuspid valve, and superior and inferior vena cava.



2. Color the heart chambers, arteries, and veins red if they contain oxygenated blood and blue if they contain deoxygenated blood.

**SECTION 37-2 REVIEW**

**BLOOD AND THE LYMPHATIC SYSTEM**

**VOCABULARY REVIEW** Define the following terms.

- 1. **plasma** \_\_\_\_\_  
\_\_\_\_\_
- 2. **hemoglobin** \_\_\_\_\_  
\_\_\_\_\_
- 3. **lymphocyte** \_\_\_\_\_  
\_\_\_\_\_
- 4. **platelet** \_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE** Write the correct letter in the blank.

- \_\_\_\_\_ 1. When oxygen is carried by the blood, it is attached to the \_\_\_\_\_ molecules of the red blood cells.  
a. platelets                      b. antibodies                      c. plasma                      d. hemoglobin
- \_\_\_\_\_ 2. Phagocytes are specialized white blood cells that  
a. carry hemoglobin.                      c. engulf and digest bacteria.  
b. produce albumen.                      d. produce antibodies.
- \_\_\_\_\_ 3. Platelets  
a. are formed in lymph nodes.                      c. produce hemoglobin.  
b. are involved with blood clotting.                      d. are whole cells.
- \_\_\_\_\_ 4. Mature red blood cells  
a. live for several years.                      c. promote clotting.  
b. are the largest cells in the blood.                      d. do not have a nucleus.
- \_\_\_\_\_ 5. If someone is receiving a blood transfusion, which of the following is most important to know?  
a. the number of red blood cells in the donated blood  
b. the number of white blood cells in the donated blood  
c. the donor's blood type  
d. if the blood recipient has eaten within the last six hours

**SHORT ANSWER Answer the questions in the space provided.**

1. How is oxygen transported in the blood? (p.952) \_\_\_\_\_  
 \_\_\_\_\_
2. List two structural or functional differences between red and white blood cells. (p.952) \_\_\_\_\_  
 \_\_\_\_\_
3. Explain why a person with type AB blood can donate blood only to a person with the same blood type. (p.954)  
 \_\_\_\_\_
4. Describe the role of platelets in blood clotting. (p.953) \_\_\_\_\_  
 \_\_\_\_\_
5. How might lack of iron affect the oxygen-carrying capacity of the blood? (p.952) \_\_\_\_\_  
 \_\_\_\_\_

**STRUCTURES AND FUNCTIONS** Use the table below to answer the following questions. (p.954)

Blood Types	Antigen on Red Blood Cells	Antibodies Produced Against	Can Donate Blood to
A	A	B	A, AB
B	B	A	B, AB
AB	A and B	None	AB
O	None	Both A and B	A, B, AB, O

1. Explain why type O blood can be donated in a blood transfusion regardless of the recipient's blood type.  
 \_\_\_\_\_
2. Describe the antibody-antigen interactions that would occur if a person with type B blood received blood from a person with type AB blood. \_\_\_\_\_  
 \_\_\_\_\_

**SECTION 37-3 REVIEW**

**THE RESPIRATORY SYSTEM**

**VOCABULARY REVIEW** Define the following terms.

- 1. **trachea** \_\_\_\_\_  
\_\_\_\_\_
- 2. **larynx** \_\_\_\_\_  
\_\_\_\_\_
- 3. **alveolus** \_\_\_\_\_  
\_\_\_\_\_
- 4. **diaphragm** \_\_\_\_\_  
\_\_\_\_\_
- 5. **emphysema** \_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE** Write the correct letter in the blank.

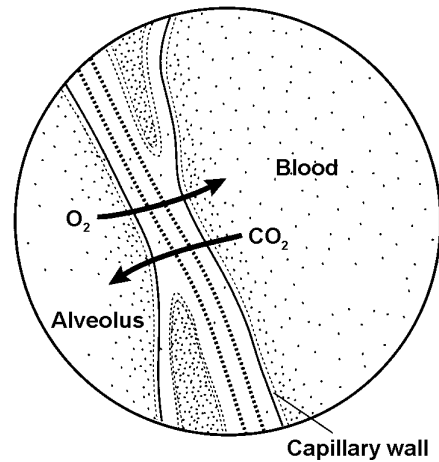
- \_\_\_\_\_ 1. The tiny hollow air sacs where oxygen exchange takes place are the  
a. alveoli.                      b. lymph nodes.                      c. capillaries.                      d. bronchioles.
- \_\_\_\_\_ 2. Two highly elastic folds of tissue known as the vocal cords can be found in the  
a. larynx.                      b. pharynx.                      c. trachea.                      d. bronchi.
- \_\_\_\_\_ 3. The large, flat muscle that moves up and down to alter the volume of the chest cavity is the  
a. trachea.                      b. epiglottis.                      c. diaphragm.                      d. larynx.
- \_\_\_\_\_ 4. Which of the following is not contained in tobacco smoke?  
a. carbon monoxide                      b. caffeine                      c. nicotine                      d. tar
- \_\_\_\_\_ 5. Inside the chest, each bronchus divides into smaller and smaller passageways known as  
a. bronchi.                      b. bronchioles.                      c. emphysema.                      d. atherosclerosis.
- \_\_\_\_\_ 6. Air is filtered, warmed, and moistened in the  
a. nose.                      b. trachea.                      c. bronchi.                      d. All of the above.

**SHORT ANSWER** Answer the questions in the space provided.

1. Is the nasal cavity a part of the respiratory system? Explain your answer. (p.956) \_\_\_\_\_  
\_\_\_\_\_
2. How is most carbon dioxide transported in the blood? (p.958 picture) \_\_\_\_\_  
\_\_\_\_\_
3. Describe how the skeleton is involved with expiration. (p.959) \_\_\_\_\_  
\_\_\_\_\_
4. What is the basic function of the respiratory system? (p.956) \_\_\_\_\_  
\_\_\_\_\_
5. In biology, the word respiration is used in two slightly different ways. Explain how these ways are different.  
(p.956) \_\_\_\_\_  
\_\_\_\_\_

**STRUCTURES AND FUNCTIONS** Use the figure below to answer the following questions. (p.958)

1. What drives the diffusion of oxygen and carbon dioxide in the lungs from a blood cell to an alveolus?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

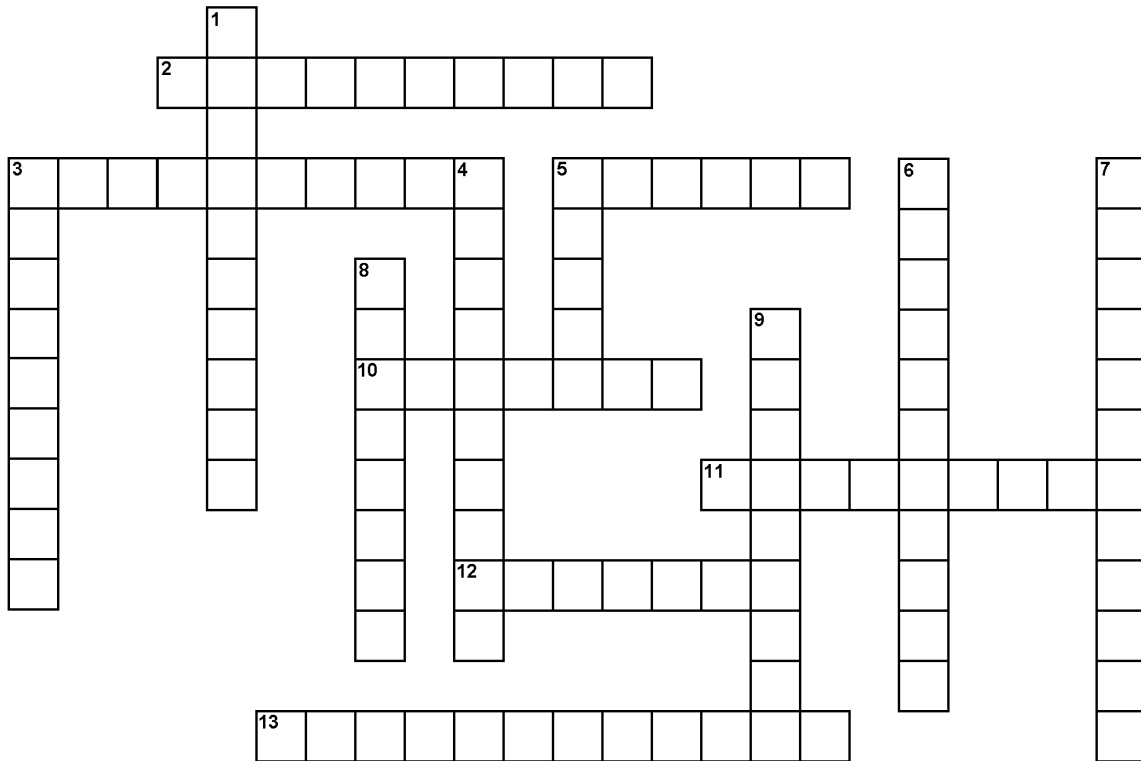


2. In the lungs, is carbon dioxide more concentrated in the alveoli or in the blood? Explain your answer.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Does the exchange of carbon dioxide depend on the concentration of oxygen? Explain your answer.  
\_\_\_\_\_  
\_\_\_\_\_

## VOCABULARY - CHAPTER 37

The crossword puzzle is a simple way to master some of the more important vocabulary terms in this chapter.



**Across**

- 2. another name for all types of white blood cells
- 3. white blood cells that engulf foreign substances
- 5. the voice box
- 10. the windpipe
- 11. the left \_\_\_\_\_ pumps blood into the aorta
- 12. small air sacs in the lungs where oxygen and carbon dioxide are exchanged
- 13. the superior and inferior vena cava conduct \_\_\_\_\_ blood to the right atrium

**Down**

- 1. iron containing protein found in red blood cells that carry most of the oxygen and some of the carbon dioxide
- 3. \_\_\_\_\_ are required for the formation of blood clots
- 4. the \_\_\_\_\_ node is called the pacemaker of the heart
- 5. the \_\_\_\_\_ node removes pathogens like bacteria and viruses from the lymphatic fluid of your body
- 6. the sac that surrounds the heart and protects it from rubbing against other structures
- 7. medical term for high blood pressure
- 8. during \_\_\_\_\_ respiration gases are exchanged between the blood and the cells
- 9. a small artery

The following terms are **not** in this chapter but are found in this puzzle. Use a reference source and look up their meanings so you can successfully complete this puzzle: **leukocytes, deoxygenated, pericardium, and internal.**