

Chapter 37 Circulatory and Respiratory Systems

Section 37-1 The Circulatory System (pages 943-950)



Key Concepts

- What are the structures of the circulatory system?
- What are the three types of blood vessels in the circulatory system?

Functions of the Circulatory System (page 943)

1. Why do large organisms require a circulatory system? _____

2. What is a closed circulatory system? _____

3. List the three components of the circulatory system.
 - a. _____
 - b. _____
 - c. _____

The Heart (pages 944-946)

4. Is the following sentence true or false? The heart is composed almost entirely of muscle.

Match each heart structure with its description.

Structure	Description
_____ 5. pericardium	a. Thick layer of muscle in the walls of the heart
_____ 6. myocardium	b. Sac of tissue that encloses and protects the heart
_____ 7. atrium	c. Upper chamber of the heart
_____ 8. ventricle	d. Lower chamber of the heart

9. Dividing the right side of the heart from the left side is a wall called a(an) _____.
10. Is the following sentence true or false? The heart functions as four separate pumps. _____
11. Complete the table about the circulatory system.

THE CIRCULATORY SYSTEM

Name of Circulatory Pathway	Side of Heart Involved	Route Blood Follows
Pulmonary circulation		From heart to lungs
	Left side	

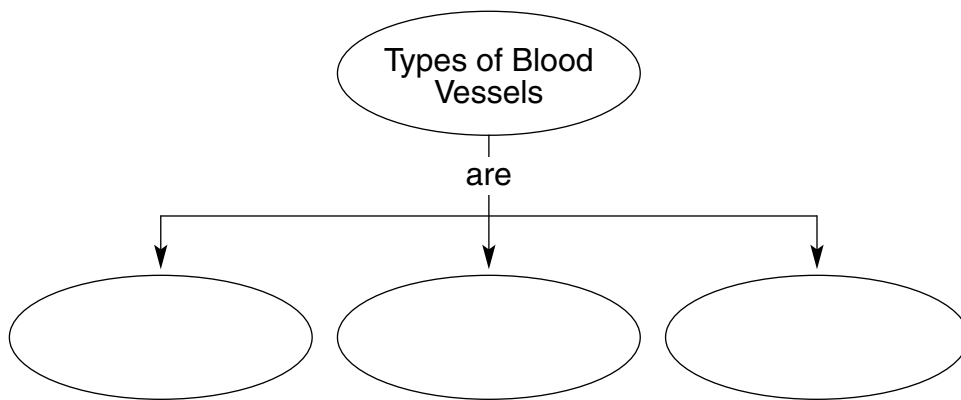
12. What happens to blood when it reaches the lungs? _____

13. Why is the blood that enters the heart from the systemic circulation oxygen-poor?

14. Circle the letter of each sentence that is true about blood flow through the heart.
- a. Blood enters the heart through the right and left atria.
 - b. Blood enters the heart through the right and left ventricles.
 - c. Blood flows from the ventricles to the atria.
 - d. Blood flows out of the heart through the right and left atria.
15. Flaps of connective tissue called _____ prevent blood from flowing backward in the heart.
16. Each heart contraction begins in a small group of cardiac muscle cells called the _____ node.
17. Cells that "set the pace" for the beating of the heart as a whole are also called the _____.

Blood Vessels (pages 946–947)

18. Complete the concept map.



19. Circle the letter of each sentence that is true about arteries.
- a. Most carry oxygen-poor blood.
 - b. They can expand under pressure.
 - c. They have thin walls.
 - d. The largest is the aorta.
20. The smallest blood vessels found in the body are the _____.
21. What work is done in the capillaries? _____

22. What keeps blood flowing toward the heart in the largest veins? _____

Blood Pressure (pages 948–949)

23. The force of blood on the walls of arteries is known as _____.
24. Is the following sentence true or false? Blood pressure increases when the heart relaxes.

Match each type of blood pressure with the force it measures.

Type of Pressure	Force It Measures
_____ 25. systolic	a. Force of the blood when the ventricles relax
_____ 26. diastolic	b. Force of the blood when the ventricles contract

27. A typical blood pressure reading for a healthy person is _____.
28. How does the autonomic nervous system regulate blood pressure?

29. How do the kidneys regulate blood pressure? _____

Diseases of the Circulatory System (pages 949–950)

30. A condition in which fatty deposits build up on the walls of arteries is called _____.
31. High blood pressure also is called _____.
32. Is the following sentence true or false? High blood pressure increases the risk of heart attack and stroke. _____
33. Circle the letter of each sentence that is true about heart attack.
- a. It is caused by atherosclerosis in the coronary arteries.
 - b. It occurs when part of the heart muscle begins to die.
 - c. Its symptoms include nausea and chest pain.
 - d. It requires immediate medical attention.
34. Is the following sentence true or false? A stroke may be caused by a clot in a blood vessel leading to the brain. _____
35. List three ways of avoiding cardiovascular diseases.
- a. _____
 - b. _____
 - c. _____