

Study Guide Chapter 16 Circulation

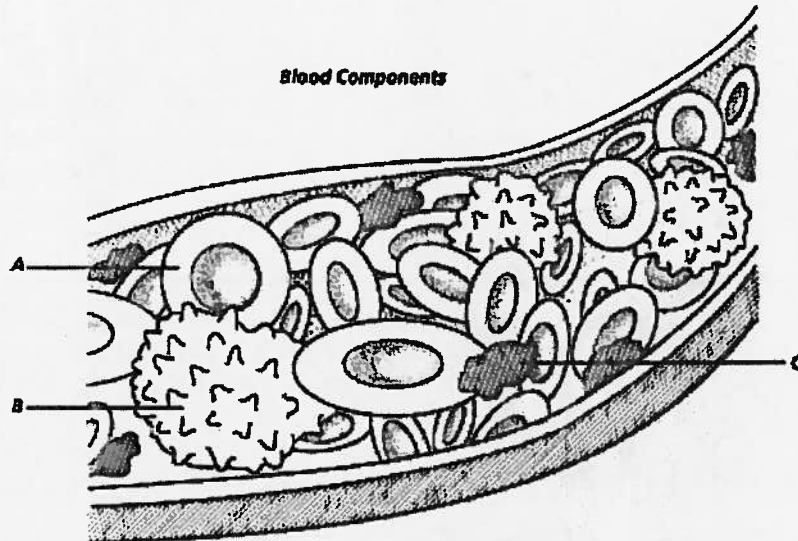
Completion

Complete each sentence or statement.

1. Blood that is rich in oxygen leaves the heart through the blood vessel known as the _____.
2. A person who receives the wrong _____ of blood during a blood transfusion may die.
3. Fluid that has leaked out of capillaries is returned to the blood by the _____ system.
4. A flap of tissue called a(n) _____ separates the right atrium from the right ventricle.
5. Artery walls consist of _____ cell layers.
6. Substances are exchanged between the blood and body cells in the blood vessels known as _____.
7. The marker molecules on red blood cells determine a person's _____.
8. The group of cells called the _____ regulates the rate at which the heart beats.
9. Fibrin is produced when the blood components called _____ start a chain reaction that produces a blood clot.
10. Blood returns to the heart from the body through blood vessels called _____.
11. Blood that contains large amounts of carbon dioxide flows from the body into the _____ atrium of the heart.

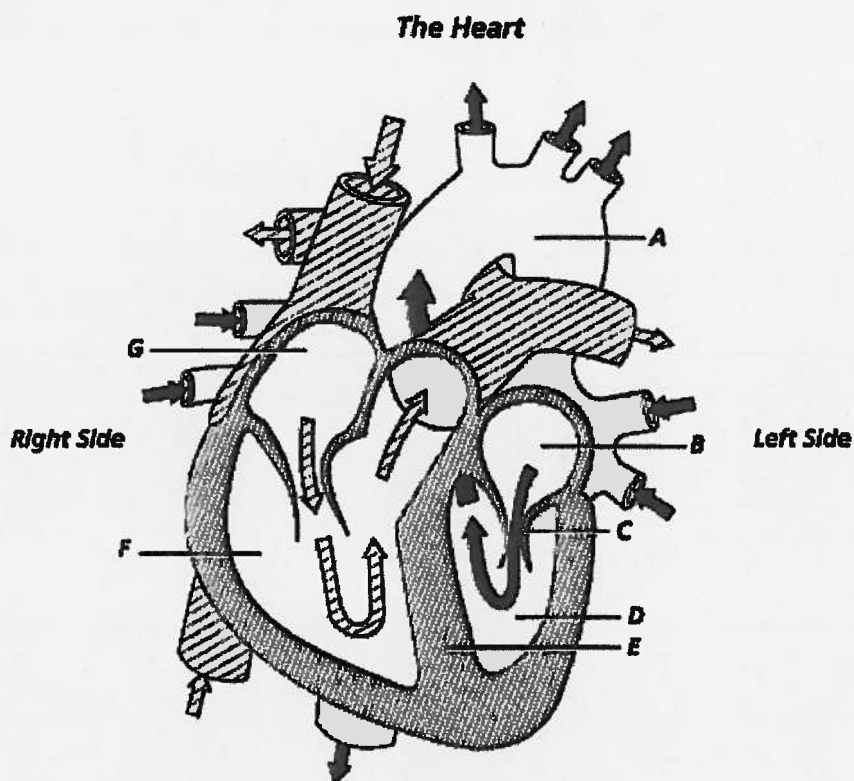
Short Answer

Use the diagram to answer each question.



12. What is the function of the type of cell indicated by B? If the body did not have this type of cell, what would probably happen?
13. What is the function of the type of cell indicated by A?
14. Which type of cell does blood contain more of—A or B?
15. Which major blood component is not labeled in the diagram?
16. What blood component is shown by C? In what body process is it important?
17. Identify the type of cell shown by A.

Use the diagram to answer each question.



18. Identify structure E. What would happen to a person who had a hole in this structure?
19. What is the structure labeled C? What is its function?
20. Identify the structure labeled D. When blood enters structure D, is the blood low in oxygen or high in oxygen? Explain.
21. What is the name for the structure labeled A? To which locations does it carry blood?

Essay

22. Describe how the muscles in an artery regulate blood flow.
23. Explain why people with type AB blood can accept transfusions of any type blood.
24. Describe how blood pressure changes as blood flows through the body after leaving the heart. Explain why this happens.
25. What is meant by the "two loops" pattern of blood flow? Explain your answer.
26. Explain where the lymph was before it entered the lymphatic system. Then explain how the lymphatic system returns lymph to the bloodstream.
27. Describe the role of the cardiovascular system in helping the body get rid of carbon dioxide.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 28. In which vessels are materials exchanged between the blood and the body cells?
- lymphatic vessels
 - veins
 - arteries
 - capillaries
- _____ 29. Blood vessels that carry blood away from the heart are called
- lymphatic vessels.
 - capillaries.
 - arteries.
 - veins.
- _____ 30. If your pulse rate increases, your heart is beating
- at the same rate as before.
 - faster than before.
 - with less pressure than before.
 - slower than before.
- _____ 31. Which chamber of the heart pumps oxygen-poor blood to the lungs?
- right ventricle
 - left atrium
 - right atrium
 - left ventricle
- _____ 32. Blood types are determined by
- marker molecules on white blood cells.
 - the kinds of blood that are available for transfusion.
 - marker molecules on red blood cells.
 - the presence of fibrin in plasma.
- _____ 33. If a person's blood lacked platelets, what process could not take place?
- clotting of blood
 - carrying glucose to cells
 - transfusing of blood
 - carrying oxygen to cells
- _____ 34. What layer or layers of veins have muscles?
- all three layers
 - the outer layer only
 - the middle layer only
 - the inner layer only
- _____ 35. Which component of blood carries oxygen to the body cells?
- platelets
 - red blood cells
 - plasma
 - white blood cells

- _____ 36. What causes blood pressure?
- the strength of the muscles in the walls of the capillaries
 - the speed at which oxygen is returned to blood in the lungs
 - the force with which the ventricles contract
 - the rate at which blood flows through the heart
- _____ 37. Needed substances are carried to the body cells by
- enzymes.
 - blood.
 - water.
 - food.
- _____ 38. The function of the atria is to
- pump blood to the body.
 - deliver oxygen to body tissues.
 - receive blood that comes into the heart.
 - pump blood to the lungs.
- _____ 39. How many loops does the human circulatory system contain?
- one
 - three
 - two
 - four
- _____ 40. Which of these heart structures prevents blood from flowing backward?
- aorta
 - coronary artery
 - septum
 - valve
- _____ 41. Exercise is important for cardiovascular health because it
- increases blood pressure.
 - slows the heartbeat.
 - strengthens heart muscle.
 - reduces sodium in the blood.
- _____ 42. What is the function of lymph nodes?
- to return lymph to the bloodstream
 - to trap disease-causing bacteria
 - to make new lymph
 - to transfer oxygen
- _____ 43. Which of these is NOT a function of the cardiovascular system?
- controlling many body processes by means of chemicals
 - carrying waste products away from cells
 - transporting cells that attack disease-causing microorganisms
 - carrying oxygen, glucose, and other needed materials to cells
- _____ 44. When blood flows into the right atrium from the body, it contains
- a lot of both oxygen and carbon dioxide.
 - a lot of oxygen and little carbon dioxide.
 - little of either oxygen or carbon dioxide.
 - little oxygen and a lot of carbon dioxide.

Name: _____

ID: B

- ___ 45. The function of white blood cells is to
 - a. carry wastes away from body cells.
 - b. fight disease.
 - c. carry carbon dioxide.
 - d. increase blood pressure.

- ___ 46. What is the function of the group of cells in the heart called the pacemaker?
 - a. sending out signals to make the heart muscles contract
 - b. carrying blood back to the heart
 - c. carrying blood away from the heart
 - d. preventing blood from flowing backwards

- ___ 47. Which component of blood is 90 percent water?
 - a. red blood cells
 - b. plasma
 - c. white blood cells
 - d. platelets

- ___ 48. When the ventricles contract, blood is pumped
 - a. through the septum.
 - b. into veins.
 - c. out of the heart.
 - d. into the heart.