

**Physical Principles in Living Systems**  
**Blood Vessels, Circulation, & Problems**

Name:

Period:

Use Chapter 16, Section 1 of your textbook to answer the questions below. The word banks can be used to fill out the sentences below.

away back to blood vessels body capillaries capillaries carbon dioxide lungs  
lungs narrow oxygen-poor oxygen-rich pulse skeletal muscles stretch valves

**Blood Vessels (p.498)**

1. Hollow tubes that carry blood in your body are called \_\_\_\_\_ .



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**Arteries (p.498)**

2. Arteries carry blood \_\_\_\_\_ from the heart.

3. The walls of arteries can \_\_\_\_\_ , which allows them to handle the pressure of pumping blood.

4. When your heart squeezes (contracts) to pump blood, this is called your \_\_\_\_\_ .

5. Look at Figure 4. Compared to the walls of a vein, are the walls of an artery thick or thin? \_\_\_\_\_

**Capillaries (p.498)**

6. The tiniest blood vessels are called \_\_\_\_\_ .

7. The walls of capillaries are just \_\_\_\_\_ cell thick.

8. Blood cells must line up single-file in capillaries, because the capillaries are so \_\_\_\_\_ .

**Veins (p.498)**

9. Veins carry blood \_\_\_\_\_ the heart.

10. In veins there are \_\_\_\_\_ that keep blood from flowing backwards.

11. The contraction of nearby \_\_\_\_\_ helps to push blood towards the heart.

12. Look at Figure 4. Compared to the walls of an artery, are the walls of a vein thick or thin? \_\_\_\_\_

**Two Types of Circulation (p.499)**

13. Blood gets the oxygen for your body from the \_\_\_\_\_ .

14. At the lungs, your body gets rid of this gas: \_\_\_\_\_ .

15. The flow of blood between heart and \_\_\_\_\_ is pulmonary circulation.

16. The flow of blood between heart and \_\_\_\_\_ is systemic circulation.

17. Look at Figure 5. What kind of blood is pumped to the lungs? \_\_\_\_\_

18. Look at Figure 5. What kind of blood is pumped to the body? \_\_\_\_\_

19. Look at Figure 5. Blood goes into \_\_\_\_\_ after it has been in an artery.

**turn over for more questions**

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**Cardiovascular Problems (p.500)**

- \_\_\_\_\_ 20. What can lower the risk of cardiovascular problems?  
a. smoking  
b. eating a healthy diet and exercising  
c. having high levels of cholesterol  
d. avoiding exercise

**Atherosclerosis (p.500)**

- \_\_\_\_\_ 21. What is cholesterol buildup in an artery called?  
a. hypertension      b. heart attack      c. heart failure      d. atherosclerosis
- \_\_\_\_\_ 22. What can cause a narrowing of the arteries?  
a. stroke      b. heart attack      c. heart failure      d. atherosclerosis

**High Blood Pressure (p.500)**

- \_\_\_\_\_ 23. What is another name for high blood pressure?  
a. hypertension      b. heart attack      c. stroke      d. atherosclerosis
- \_\_\_\_\_ 24. What can happen when a brain artery clogs?  
a. heart failure      b. heart attack      c. stroke      d. atherosclerosis

**Heart Attacks and Heart Failure (p.501)**

- \_\_\_\_\_ 25. What can happen when the heart muscle does not get enough blood?  
a. hypertension      b. heart attack      c. heart failure      d. atherosclerosis
- \_\_\_\_\_ 26. What happens when the heart cannot pump enough blood?  
a. hypertension      b. heart attack      c. heart failure      d. atherosclerosis

