

Name: _____ Block: _____ Date: _____

Biology 12 - The Heart & Circulatory System

⇒ Part A: Definitions: Define the following terms, **IN YOUR OWN WORDS, IN AS FEW WORDS AS CLARITY ALLOWS.**

1. Arterioles	
2. arterial duct	
3. atria	
4. atrioventricular node	
5. Capillaries	
6. cholesterol	
7. diastole	
8. diastolic blood pressure	
9. heart attack	
10. hypertension	
11. hypotension	
12. intrinsic heartbeat	
13. lacteal	
14. Lymph	
15. Lymph nodes	
16. lymphocytes	
17. nodal tissue	
18. oval opening	
19. pacemaker node	
20. placenta	
21. pulmonary circulation	
22. septum	
23. sinoatrial node	
24. spleen	
25. stroke	
26. systemic circulation	
27. systole	
28. systolic blood pressure	
29. thoracic duct	
30. thymus gland	
31. umbilical arteries	
32. venous duct	
33. ventricles	
34. Venules	

⇒ **Part B: Pot Pourri!**

- The major systemic artery in the body is the _____.
- The systemic system begins with the _____ of the heart and ends with the _____ of the heart.
- Contraction of the heart is called _____; just following contraction, blood pressure is at it _____.
- The SA node is often called the _____.
- The first wave in an electrocardiogram occurs during the contraction of the _____; the second occurs during the contraction of the _____.
- A vein is a blood vessel that takes blood to the _____.
- Movement of blood in the veins is aided by _____ muscle contraction.
- Capillaries are tiny vessels with very _____ walls, facilitating the exchange of molecules.
- The lymph vessels begin in the tissues and eventually join the _____ veins.
- Two dietary components that may contribute to the medical condition *hypertension* are _____ and _____.
- A stroke occurs when _____ cells are denied oxygen.

12. Label the parts of the circulatory system in this diagram below:

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.
13.	14.	15.
16.		

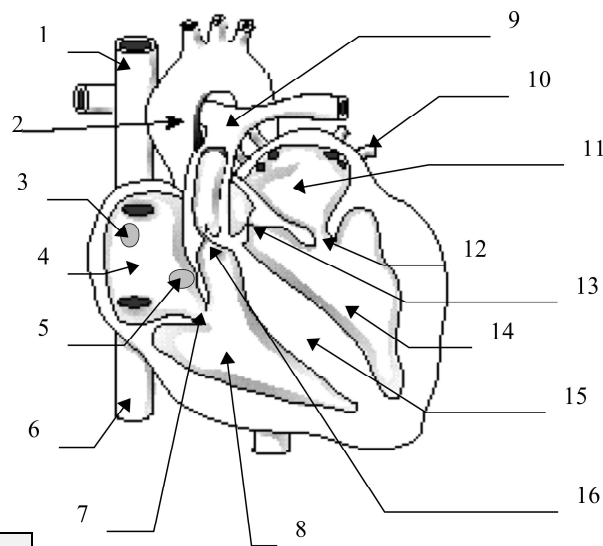
13. Match the structures in the key to the statements below:

Key: **ARTERY** **VEIN** **CAPILLARY**

- has the thickest walls: _____
- has valves: _____
- has the greatest total cross-sectional area: _____
- takes blood away from the heart: _____
- takes blood to the heart: _____
- exchanges carbon dioxide and oxygen with tissues: _____

14. The path of blood through the heart. Starting with vena cava, list the structures in order through which blood flows. Use the parts in the column on the left.

Structures (Alphabetical listing)	Correct Order
1. aorta	
2. bicuspid valve	
3. left atrium	
4. left ventricle	
5. lungs	
6. pulmonary artery	
7. pulmonary semilunar valve	
8. pulmonary veins	
9. right atrium	
10. right ventricle	
11. semilunar valve	
12. tricuspid valve	
13. vena cava	



15. The heart beats about _____ times a minute. What actually happens is that the _____ node initiates the contraction of the _____ (chambers). The nervous stimulus is picked up by the _____ node, and this initiates the contraction of the _____ (chambers). When the chambers are not actually contracting, they are relaxing. Contraction is termed systole, and resting is termed _____.

16. When the atria contracts, this forces the blood through the _____ valves into the _____. The closing of these valves is the lub sound. Next the ventricles contract and force the blood into the arteries. Now the _____ valves close, and this is the DUPP sound. A heart murmur is caused by _____.

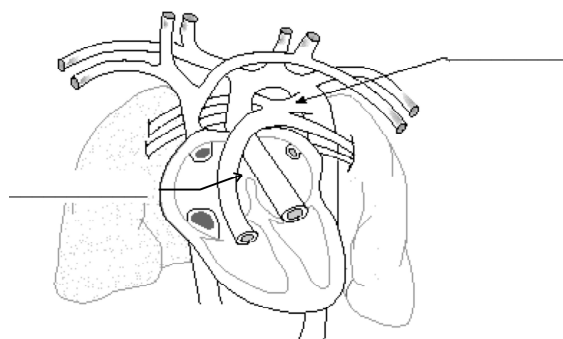
17. Using the diagram of the circulatory system in your text that shows the major blood vessels, trace the path of blood from:

- the left ventricle to the legs: _____
- the legs to the right atrium: _____
- the aorta to the liver: _____
- the liver to the vena cava: _____

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18. a) Label the indicated parts of the fetal heart at right:
b. List the four structural differences between the fetal circulatory system and the adult, as well as the function of each difference.

Structure A	
Function	
Structure B	
Function	
Structure C	
Function	
Structure D	
Function	



19. There are only two types of lymph vessels, the lymph _____ and the lymph _____.

20. Mix and match the correct term for each description on the left.

- _____ 1. largest artery
- _____ 2. returns tissue fluid to the circulatory system
- _____ 3. prevent blood from flowing in the wrong direction
- _____ 4. vessel transporting blood through kidneys
- _____ 5. vessel transporting blood through legs
- _____ 6. localized swelling due to excess tissue fluid
- _____ 7. supply blood to the heart
- _____ 8. the highest arterial pressure
- _____ 9. the lowest arterial pressure
- _____ 10. condition of high blood pressure
- _____ 11. "hardening of the arteries"
- _____ 12. a stationary clot along an arterial wall
- _____ 13. a dislodged, moving thrombus
- _____ 14. when a portion of the brain dies due to a lack of oxygen
- _____ 15. chest pain (including pain in the left arm)
- _____ 16. occurs when circulation to part of the heart is blocked

- A valves
- B thrombus
- C systolic blood pressure
- D stroke
- E renal
- F lymphatic system
- G iliac
- H hypertension
- I heart attack
- J embolism
- K edema
- L diastolic blood pressure
- M coronary arteries
- N atherosclerosis
- O aorta
- P angina pectoris

21. How is a lymph capillary like a blood capillary? a) they both contain blood b) they both contain valves c) they both have thin walls d) they are both connected to the vena cava

22. If you press a finger down on a prominent vein, say, on the back of your hand and then slide the finger distally to a new pressure point closer to the fingers, would you expect the section of vein you just moved along to refill with blood? Suppose you had moved the finger proximally toward the upper arm?

23. Explain how the blood that right now is arriving at your fingertips will get back to your heart. What will drive its movement?