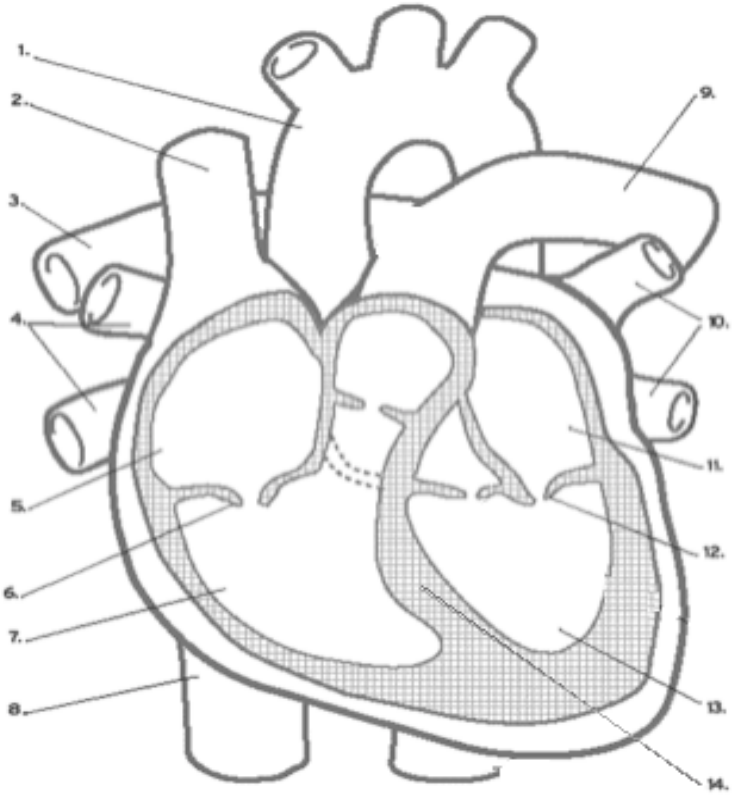
Name: _____ Date: _____

Biology – THE CIRCULATORY SYSTEM REVIEW PACKET Period: _____

Part I: Label the Heart Diagram using the word list provided. All words will be used once!

~~Superior Vena Cava~~
~~Right Atrium~~
~~Inferior Vena Cava~~
~~Left Atrium~~
~~Left Ventricle~~
~~Right Pulmonary Artery~~
~~Right AV Valve (Tricuspid)~~
~~Left Pulmonary Artery~~
~~Left AV Valve (Bicuspid)~~
~~Septum~~
~~Right Pulmonary Veins~~
~~Right Ventricle~~
~~Left Pulmonary Veins~~
~~Aorta~~



1. aorta
2. Superior vena cava
3. Pulmonary artery
4. Pulmonary veins
5. Right atrium
6. Tricuspid valve
7. right ventricle
8. Inferior vena cava
9. Pulmonary artery
10. Pulmonary veins
11. left atrium
12. left av valve
13. left ventricle
14. Septem

Part II: Fill in the blanks using the words provided. All words will be used once!

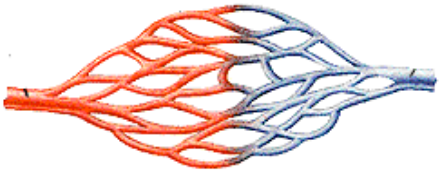
~~*Aorta*~~ ~~*Veins*~~ ~~*Pressure*~~ *Circulates*
~~*Oxygen*~~ ~~*Nutrients*~~ ~~*Wastes*~~ ~~*CO_2*~~

1. **Blood pumping through our arteries causes** Pressve **on them.**
2. Veins **are important because they carry blood from the body back to the heart.**
3. **Our blood** circulates **through our body in our blood vessels.**
4. **The** aorta **is the biggest artery in the body and its attached to the Left Ventricle.**
5. **The circulatory system carries** Oxygen **and** nutrienets **to our cells, and takes** wastes **and** Co2 **away.**

Part III: With the features listed below, write the correct 3 in each of the spots provided for each blood vessel diagram. All features will be used once!

Features:

- ~~*Medium-sized blood vessels*~~
- *Tough, flexible and thick walls*
- *The Smallest blood vessels*
- *Carries blood back to the heart*
- *Thin Walls due to less blood pressure*
- *Carries blood away from the heart*
- *Walls are only one-cell thick*
- *The largest blood vessels*
- *Exchanges oxygen and waste with the blood*

Arteries	Capillaries	Veins
		
List the 3 features from above	***List the 3 features from above***	***List the 3 features from above***
Carries blood away from the heart	***1.____ Exchanges oxygen and waste with the blood***	***1 Carries blood back to the heart***
2._The largest blood vessels	***2 The Smallest blood vessels***	***Thin Walls due to less blood pressure***
3.Tough, flexible and thick walls	***Walls are only one-cell thick***	***3._ Medium-sized blood vessels***

Part IV: Choose the best answer for each question.

1. Why is oxygen important to blood and to the cells?

   A. Oxygen helps the blood to clot.
   B. Oxygen brings food to the cells.
   C. Oxygen is necessary for cell growth and energy.
   D. Oxygen is not important -- carbon dioxide is the most important substance to the body.

2. Which type of blood vessels carries blood away from the heart?

   A. Veins B. Arteries C. Capillaries D. Arteries, veins, and capillaries

3. When oxygen-rich blood leaves the lungs for the heart, it enters the heart through the pulmonary vein into the _____

   A. left ventricle B. right atrium C. right ventricle D. left atrium

4. How many times does the average adult heart beat per minute while at rest?

   A. 150 B. 40 C. 120 D. 70 E. 35

5. A pulse is caused by _____.

   A. the valves in an artery opening and closing
   B. oxygen entering the blood in the lungs
   C. red blood cells colliding with each other in the arteries
   D. changes in blood pressure in an artery

6. Which one of the following is NOT a blood vessel?

   A. Capillary B. Artery C. Colon D. Vein E. They all are blood vessels

7. The blood vessel that carries deoxygenated blood from the body to the right side of the heart is called the_____.

   A. pulmonary vein B. aorta C. pulmonary artery D. vena cava(s)

8. Which one of the following describes a vein?

   A. It has thin walls and carries oxygenated blood away from the heart.
   B. It has thick walls with valves and carries blood under pressure.
   C. It has a very thin wall with valves and carries blood under pressure.
   D. It has thin walls with valves, and carries blood to the heart

9. What does the cardiovascular system move to and from body cells?

   A. nutrients B. hormone C. gases and wastes D. all of the above

10. One of the semilunar valves is the _____.

   A. Pulmonary B. Tricuspid C. Bicuspid D. Mitral

11. Which of the following is the most critical nutrient carried by the blood?

   A. Calcium B. Oxygen C. Iron D. none of the above

12. In the U.S. the healthy systolic pressure is _____.

   A. less than 80 mm Hg
   B. less than 100 mm Hg
   C. less than 120 mm Hg
   D. less than 140 mm Hg

13. The structural components of the circulatory system include _____.

   A. the heart and lungs
   B. the heart and blood vessels
   C. the heart and lymph nodes
   D. the heart, blood vessels, and lymph nodes

14. All exchanges of fluid, nutrients, and wastes between the blood and tissues occur across the walls of _____.

   A. Capillaries B. leukocytes C. lymph ductules D. the heart

15. Which of the following structures are involved in pulmonary circulation?

   A. the right ventricle, pulmonary trunk, and left atrium
   B. the superior vena cava, right atrium, and right ventricle
   C. the left ventricle, aorta, and inferior vena cava
   D. the right atrium, right ventricle, and left atrium

Part V: Write TRUE if the statement is true or FALSE if the statement is false.

1) F The right side of the heart collects oxygenated blood from the body.
2) T Valves in the heart maintain the flow of blood.
3) F The heartbeat is made up of three parts.
4) T Arteries carry blood away from the heart.
5) T The aorta is the largest artery in the body.
6) T Capillaries are the smallest of the body's blood vessels.
7) F Atherosclerosis normally begins in adulthood.

Part VI: Read this passage and answer the questions that follow.

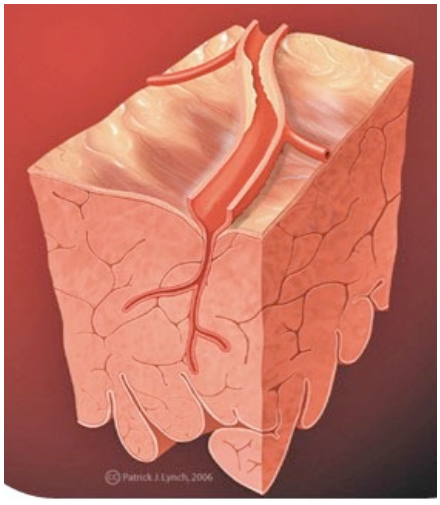
Homeostatic Imbalances of the Cardiovascular System

Cardiovascular disease (CVD) refers to any disease that affects the cardiovascular system, but it is usually used to refer to diseases related to atherosclerosis, which is a chronic inflammatory response in the walls of arteries that causes a swelling and buildup of materials called plaque. Plaque is made of cell debris, cholesterol, fatty acids, calcium, and fibrous connective tissue that build up around an area of inflammation. As a plaque grows it stiffens and narrows the artery, which reduces the flow of blood through the artery, shown in Figure 1.1.

Atherosclerosis

Atherosclerosis normally begins in later childhood, and is usually found in most major arteries. It does not usually have any early symptoms. Causes of atherosclerosis include a high-fat diet, high cholesterol, smoking, obesity, and diabetes. Atherosclerosis becomes a threat to health when the plaque buildup interferes with the blood circulation in the heart (coronary circulation) or the brain (cerebral circulation). A blockage in the coronary circulation, can lead to a heart attack, and blockage of the cerebral circulation (leading to, or within the brain) can lead to a stroke. According to the American Heart Association, atherosclerosis is a leading cause of CVD. Atherosclerosis is sometimes referred to as hardening of the arteries.

FIGURE 1.1



1) Cardiovascular disease (CVD) is usually referred to diseases related to what?
refer to disease related to atherosclerosis
2) What is plaque made up of?
cell debris
3) Atherosclerosis is sometimes referred to as what?
hardening of the arteries
4) What are the causes of atherosclerosis?
high-fat diet, high cholesterol, smoking, obesity and diabetes
5) In what two organs can plaque buildup interfere with blood circulation?
The heart and brain