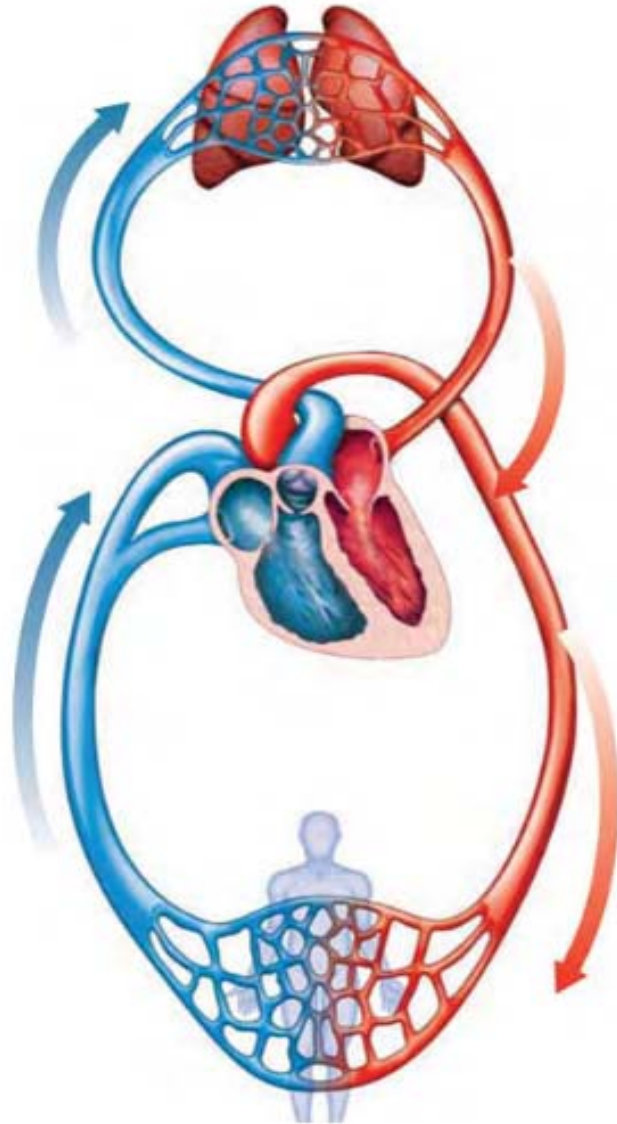


Chapter 12- Anatomy of the Heart
Honors Anatomy

Below is an illustration of the pulmonary circuit and the systemic circuit.

Using the list and diagram below, identify the pulmonary circuit, systemic circuit, and the different organs and vessels associated with each circuit.



Heart
Lung

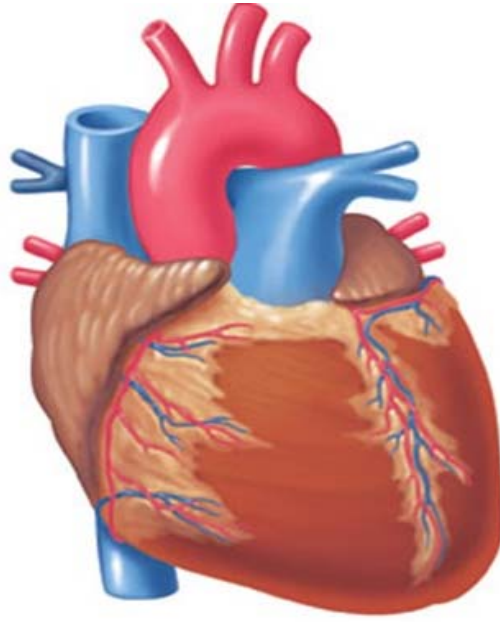
Lung capillaries
Pulmonary circuit

Systemic circuit
Tissue capillaries

1. The pulmonary circuit is the circulation of blood between the _____ and the _____.
2. The systemic circuit is the circulation of blood between the _____ and the _____.
3. Where does blood change from oxygen-poor blood to oxygen-rich blood?

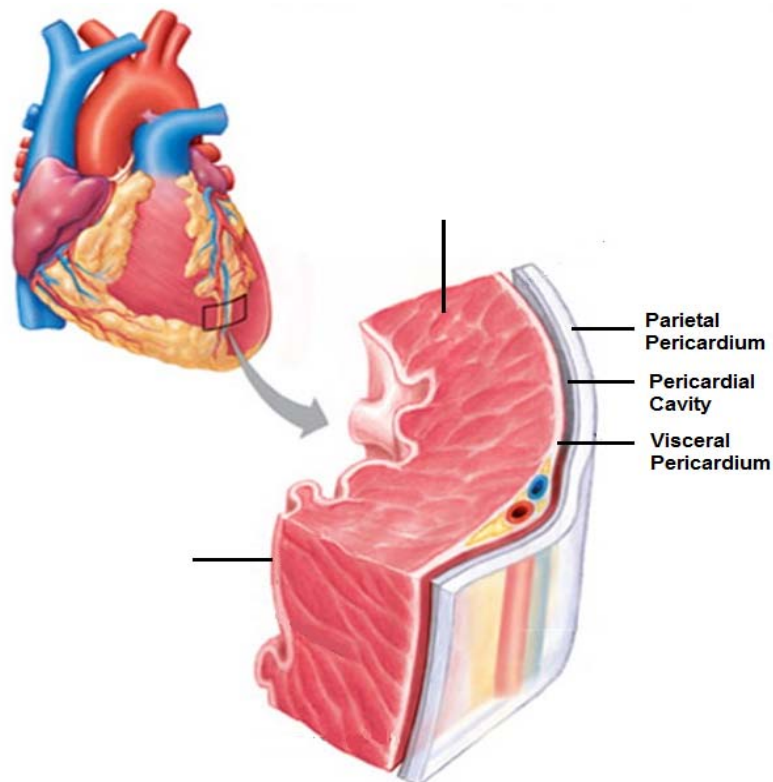
4. Why does blood change color from red to blue at the tissue capillaries?

1. Using the color green, draw in and label the visceral pericardium surrounding the heart.
2. Using the color purple, draw in and label the parietal pericardium surrounding the heart.
3. The area between the visceral and parietal pericardium is a serous cavity. Color this yellow and label it.

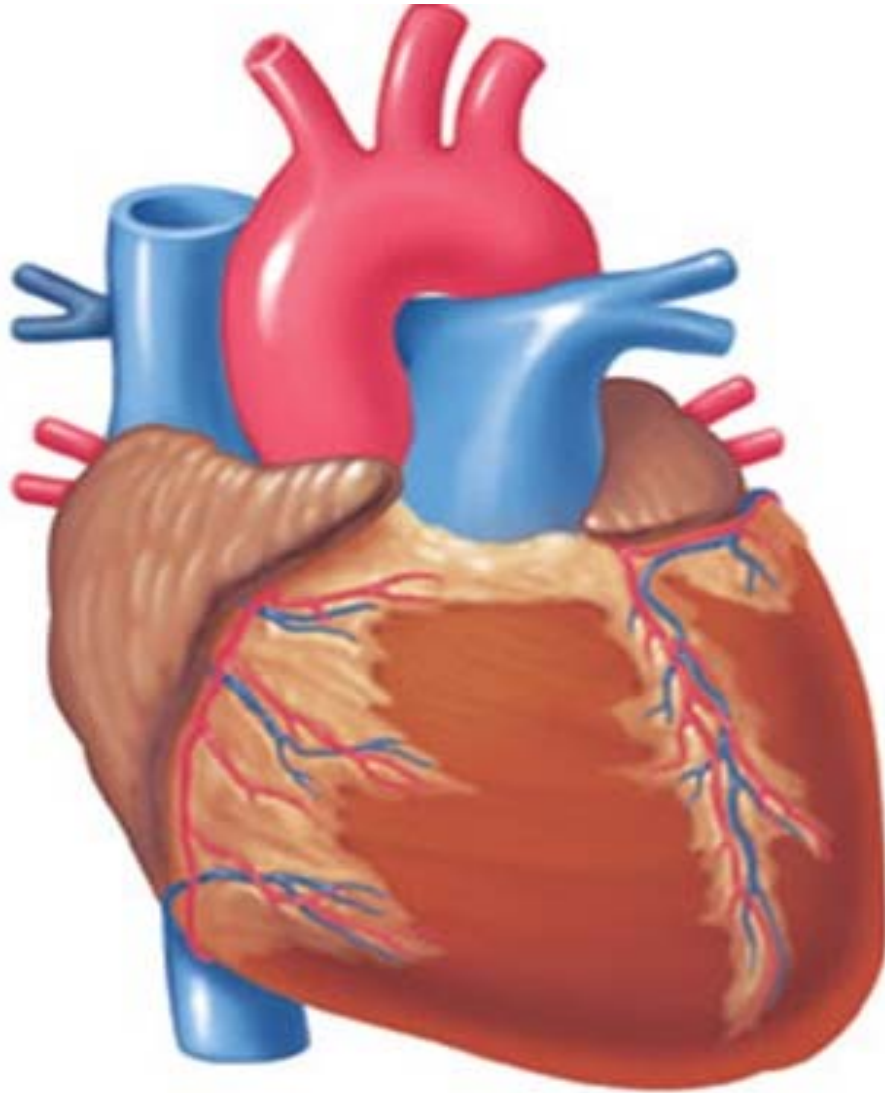


1. List the 2 functions of pericardial fluid.
2. The thickest part of the heart wall composed of cardiac muscle is called the _____.
3. The inner lining of the heart chambers is called the _____.

Using the diagram below, label the endocardium and myocardium.



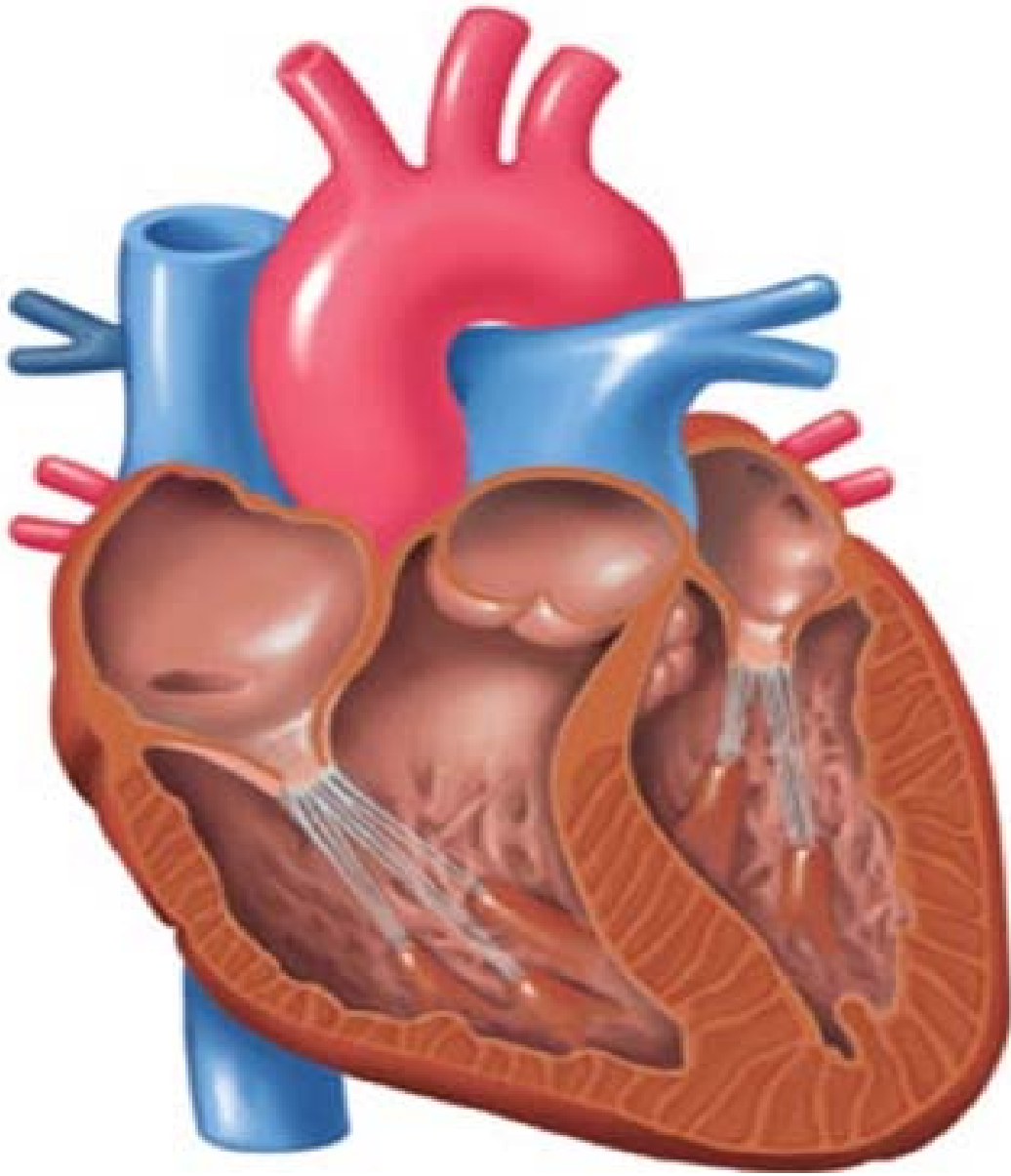
Using the list below, label the different external structures of the heart.



- | | | | |
|------------------------|--------------------|--------------------|-----------------------------|
| Aorta | Coronary arteries | Pulmonary trunk | Ventricles (Right and Left) |
| Atria (Right and Left) | Inferior vena cava | Pulmonary veins | |
| Cardiac veins | Pulmonary arteries | Superior vena cava | |

1. The main function of the heart is to _____.
2. The upper chambers of the heart are called _____.
3. The lower chambers of the heart are called _____.
4. The major blood vessels that transports oxygen-poor blood back to the heart are the _____
_____, which transports oxygen-poor blood from the upper body to the right atrium,
and the _____, which transports oxygen-poor blood from the
lower body to the right atrium.
5. Oxygen-poor blood in the heart is transported to the lungs via the _____, and
then branching off into the left and right _____.
6. Once oxygenated, oxygen-rich blood returns to the heart from the lungs via the right and left _____.
7. The major blood vessels that delivers oxygen-rich blood to the entire body is called the _____.
8. Blood vessels that transports oxygen-rich blood to the outer myocardium are called _____.
9. Blood vessels that transports oxygen-poor blood away from the outer myocardium are called _____.

Using the list below, label the internal structures of the heart.



- | | | | | |
|------------------------|--------------------|---------------------------|-----------------|--------------------|
| Aorta | Inferior vena cava | Pulmonary arteries | Pulmonary veins | Superior vena cava |
| Aortic semilunar valve | Left atrium | Pulmonary semilunar valve | Right atrium | Tricuspid valve |
| Bicuspid valve | Left ventricle | Pulmonary trunk | Right ventricle | |
| Chordae tendinae | Papillary muscles | | | |

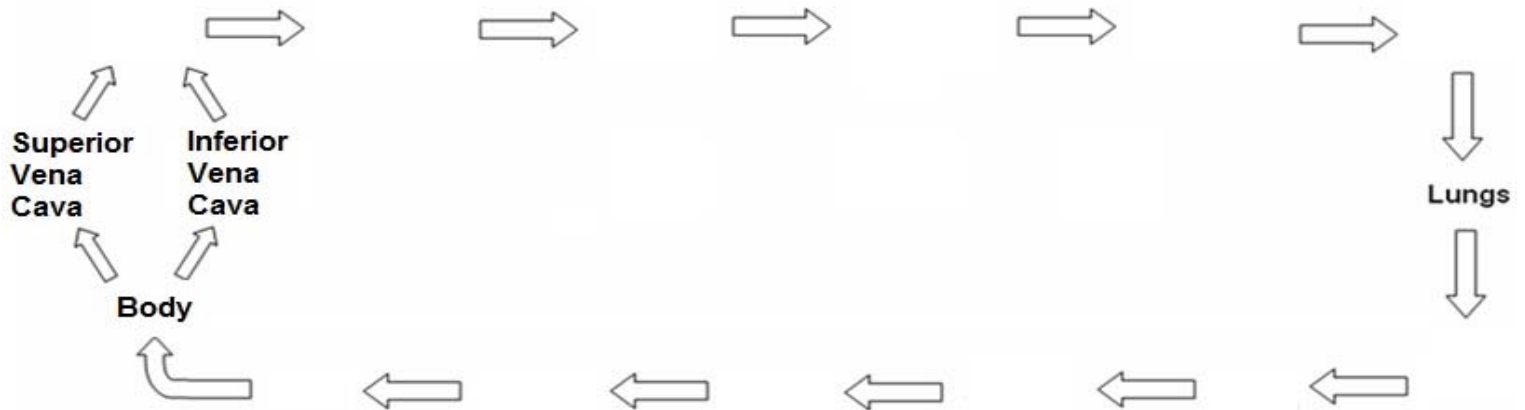
3. The combined functions of papillary muscles and chordae tendinae is to

Complete the paragraph about the circulation of blood through the heart.

Starting in the right atrium, 1 - 2 blood is pumped through the 3 valve and into the 4 _____. From the right ventricle, blood is pumped through the 5 6 into the 7 _____. From the pulmonary trunk, blood travels through the right and left 8 _____ and into the 9 _____, where blood becomes oxygenated. 10 - 11 blood from the lungs travels through the right and left 12 _____ back to the heart and into the 13 _____. From the left atrium, blood is pumped through the 14 valve into the 15 _____. The wall of the left ventricle is the thickest of all chamber walls because it has to pump blood to the entire body. From the left ventricle, blood is pumped through the 16 _____ into the 17 _____. Once in the aorta oxygen-rich blood is distributed to the 18 _____. Tissues of the body exchange 19 _____ for 20 _____. Oxygen-poor blood is then returned back to the heart. Oxygen-poor blood from the head is returned to the right atrium via the 21 _____. Oxygen-poor blood from the lower body is returned to the right atrium via the 22 _____.

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

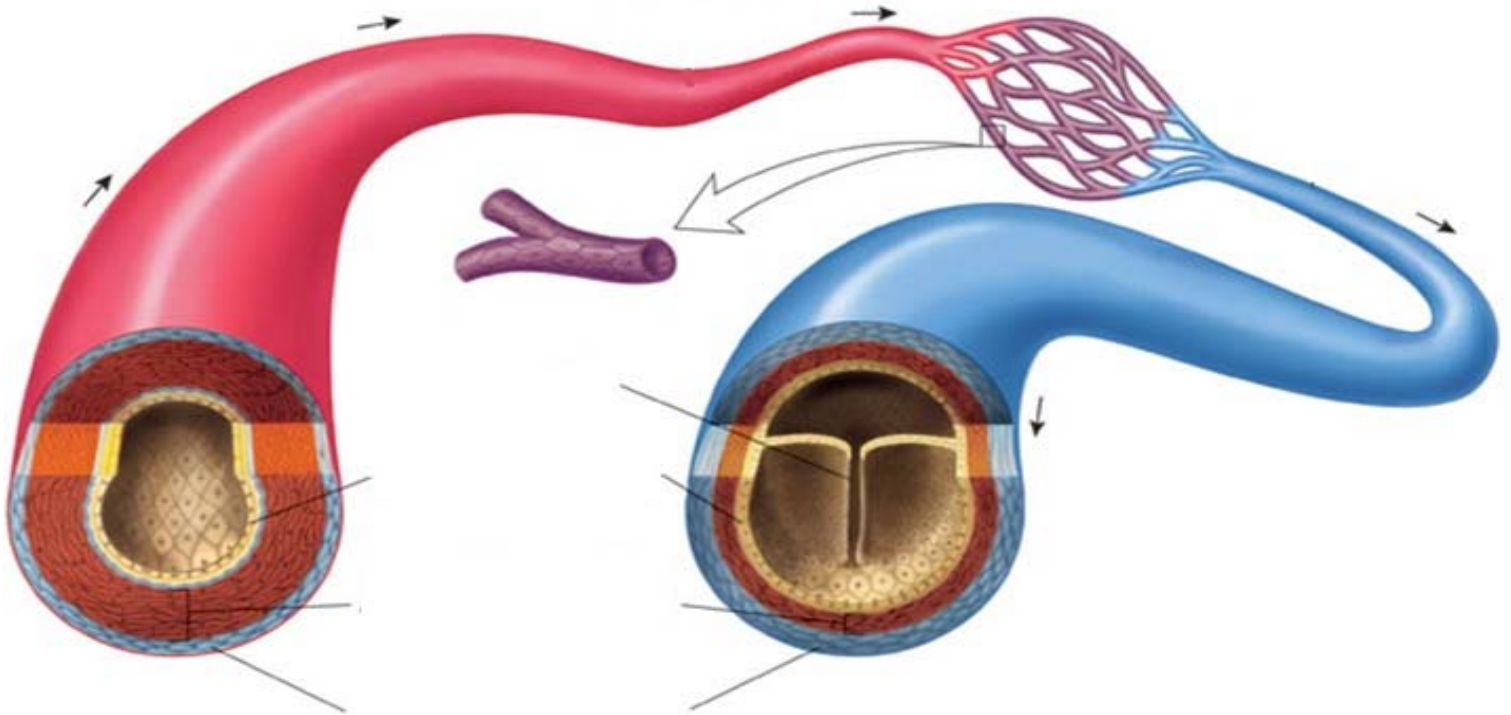
Using the information from the above paragraph and the list below, complete the flow map of circulation.



- | | | | | |
|------------------------|--------------------|---------------------------|-----------------|--------------------|
| Aorta | Inferior vena cava | Pulmonary arteries | Pulmonary veins | Superior vena cava |
| Aortic semilunar valve | Left atrium | Pulmonary semilunar valve | Right atrium | Tricuspid valve |
| Bicuspid valve | Left ventricle | Pulmonary trunk | Right ventricle | |
| Body | Lungs | | | |

Chapter 13- Blood Vessels

Using the list below, label the different blood vessels and their parts.



Artery
Capillary

Tunica externa
Tunica interna

Tunica media
Valve

Vein

1. The _____ is the blood vessel that exchanges gases between the alveoli in the lungs or tissues in the body.
2. The _____ is the blood vessel that transports blood away from the heart.
3. The _____ is the blood vessel that transports blood to the heart.
4. Give one characteristic of an artery that distinguishes it from a vein.
5. Give one characteristic of a vein that distinguishes it from an artery.