

Bio 22 PAL Worksheet  
Heart and Great Vessels

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1. What are some functions of the Cardiovascular System?
  
  
  
  
  
  
  
  
  
  
2. The heart is located within the \_\_\_\_\_ in the \_\_\_\_\_ cavity.
  
  
  
  
  
  
  
  
  
  
3. What causes blood to move in the body?
  
  
  
  
  
  
  
  
  
  
4. In what structure is blood pressure the highest and where is it the lowest?
  
  
  
  
  
  
  
  
  
  
5. What are the four chambers of the heart?
  
  
  
  
  
  
  
  
  
  
6. Name the great/ major vessels of the heart.
  
  
  
  
  
  
  
  
  
  
7. Name all the valves found in the heart.
  - a) Why are these valves important?
  
  
  
  
  
  
  
  
  
  
  - b) What is attached to AV valves that anchor the cusps of the valve to the ventricles?

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- c) These protrude on the ventricle wall and attach to the structure described in part b.
8. Draw and label the heart. Include all important anatomical structures found on your lab list.
9. Define pulmonary and systemic circuit.

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10. List in order all the structures a single drop of blood will travel through in the heart starting from the tissues and ending at the aorta. Also, signify where blood is oxygenated vs. deoxygenated.
11. If the fibrous pericardium is removed, the 3 layers of the heart wall is exposed. What are the 3 layers of the heart wall?
12. The heart has its own blood supply to ensure delivery to the heart. What is this circulation called?
- a) Name the two branches from the aorta that feed the heart and the two arteries that branch from each of the main two branches.
  - b) Blood returns from the heart tissue to the \_\_\_\_\_ atrium via the \_\_\_\_\_.
  - c) Name the 3 cardiac veins and state where they are found on the heart.
13. The intrinsic conduction system:
- a) There are 5 main branches in this system each containing autorhythmic cells. What are those 5 autorhythmic cells?

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- b) Action potentials in the \_\_\_\_\_ spreads to the Atria causing what to occur?
- c) Define systole.
- d) Define diastole.

14. Fetal circulation:

- a) The placenta supplies oxygenated blood to the right atrium via the inferior vena cava. What is the structure that allows this blood to go straight into the left atrium?
- b) This feature connects the aorta with the pulmonary artery, further shunting blood away from the lungs and into the aorta.

Thought Questions:

15. Why is the left ventricle wall so much thicker than the right ventricle wall?
16. Why would the typical pacemaker cell lead be fed into the right atrium of the heart in situations of heart arrhythmias? (hint: what controls heart rhythm?)
17. When do the “Lub” and “Dub” sounds occur?

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18. What branch of the nervous system regulates cardiac function? Can the heart beat independent of the nervous system?