

## SNC 2DI Circulation Worksheet

Fill in the blanks with the correct word from the list below. The words "right" and "left" may be used more than once.

ATRIA	LEFT MUSCLE	RIGHT VALVES	LUNGS ATRIUM
AORTA			

The heart is a Muscle. It is hollow and slightly bigger than a fist. It contains two pumps, those being the left ventricle and the right ventricle. There are four chambers making up the heart. The right and left ventricles, and the right and left atria. The right atrium receives venous blood returning from the body tissues. It then delivers this blood to the right ventricle which pumps it to the Lungs. There, it is oxygenated and returned to the heart, to the left atrium. There the blood is delivered to the left ventricle and pumped to the rest of the body through the largest artery in the body the aorta. In the heart, there are valves which regulate the flow of blood so it goes in one direction only.

Short Answer Questions:

1. Why are the walls of the ventricles of the heart thicker than those of the atria?
2. Compare the composition of oxygenated and deoxygenated blood in terms of their relative oxygen and carbon dioxide contents.

$$\begin{array}{l} \text{oxygenated} = \uparrow \text{conc. O}_2 \downarrow \text{conc CO}_2 \\ \text{deoxygenated} = \downarrow \text{conc. O}_2 \uparrow \text{conc CO}_2 \end{array}$$

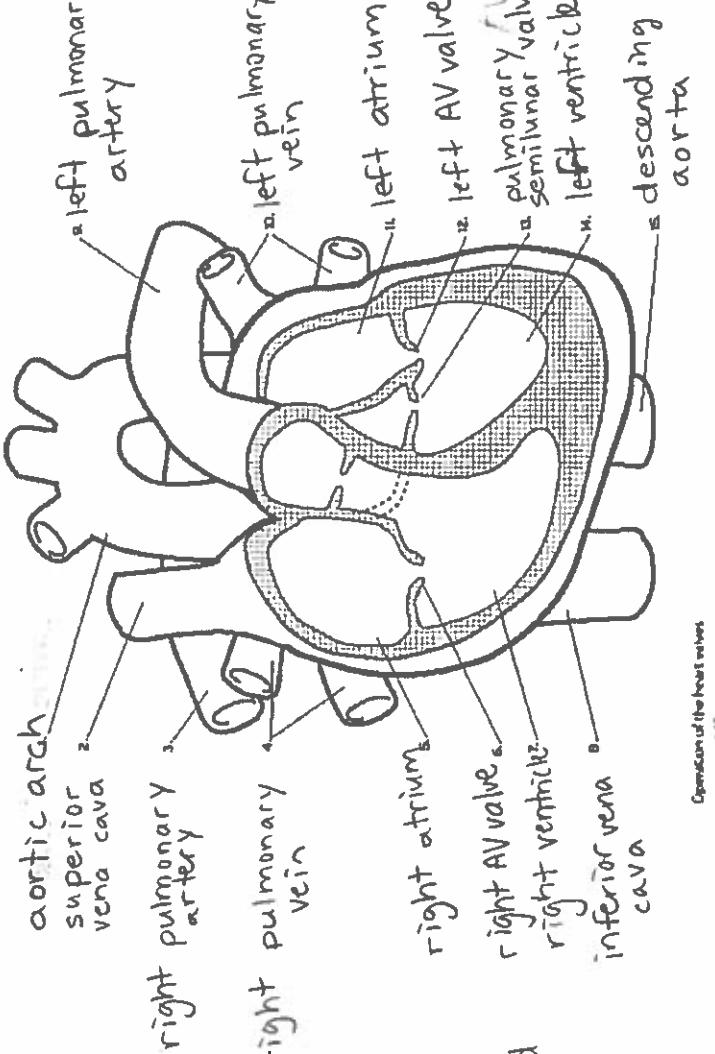
3. Identify the function played by each of the following structures.

- a) valve \* prevents back flow \* separates left + right side of heart of blood
- b) septum

4. Identify each of the following statements as being more closely associated with either arteries (A), veins (V) or capillaries (C). Place an A, V or C in the blank before each statement as appropriate.

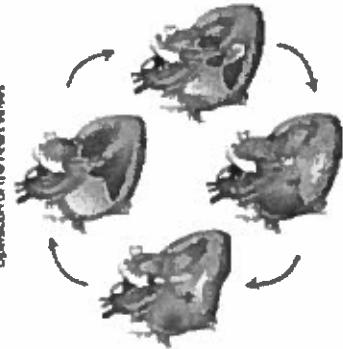
- A a) Usually carry the most deoxygenated blood
- B b) The most muscular blood vessels
- C c) These blood vessels carry blood from the heart
- D d) These vessels return blood to the heart
- E e) Contain valves to prevent the backflow of blood
- F f) Microscopic blood vessels
- G g) Exchange of materials occurs from these vessels
- H h) Vessels in which the pulse is felt
- I i) Usually care the most oxygenated blood

Label the parts of the heart below. Indicate the direction of blood flow



Explain the flow of blood in the heart using the picture to the left as a guide.

1. Blood enters right atrium from superior + inferior vena cava
2. From right atrium, goes through R A-V valve to R ventricle
3. From R ventricle, goes through R pulmonary valve to lungs
4. moves to R + L pulmonary artery to lungs
5. From lungs, oxygenated blood is returned to heart via pulmonary veins to L atrium
6. Passes through L AV valve to left ventricle
7. From left ventricle to aortic arch

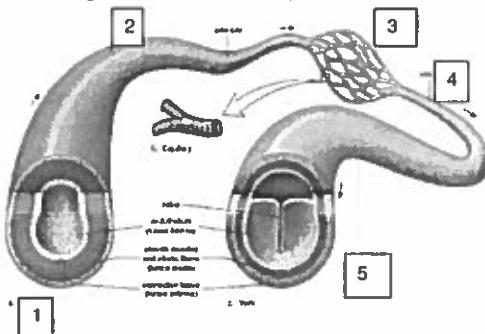


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Multiple Choice Questions:

1. Which medical imaging technology would be best viewing a developing fetus?  
 a) CT scan      b) MRI      c) PET      d) Ultrasound      e) X-ray
2. Which imaging technology gives three dimensional pictures of internal organs?  
 a) CT scan      b) MRI      c) PET      d) Ultrasound      e) X-ray
3. Which system removes liquid waste from the body?  
 a) Circulatory  
 b) Digestive  
 c) Excretory  
 d) Nervous  
 e) Respiratory
4. Which human organ system defends the body against infections?  
 a) Endocrine  
 b) Immune  
 c) Nervous  
 d) Reproductive  
 e) Skeletal
5. Choose the list that shows the correct order of food passage through the digestive system.  
 a) Large intestine, small intestine, stomach, esophagus, anus  
 b) Mouth, esophagus, stomach, small intestine, large intestine  
 c) Mouth, stomach, liver, large intestine, small intestine  
 d) Mouth, stomach, pancreas, liver, large intestine  
 e) Small intestine, large intestine, stomach, esophagus, mouth
6. Which digestive organ contains bacteria to assist in producing vitamins?  
 a) Esophagus  
 b) Large intestine  
 c) Liver  
 d) Mouth  
 e) Stomach

Use the figure below to answer questions 7 and 8



7. Which is the correct set of labels for the diagram shown?

- a) 1-artery, 2-arteriole, 3-capillary, 4-venule, 5-vein
- b) 1-artery, 2-venule, 3-capillary, 4-arteriole, 5-vein
- c) 1-capillary, 2-venule, 3-vein, 4-artery, 5-arteriole
- d) 1-vein, 2-capillary, 3-venule, 4-artery, 5-artiole
- e) 1-vein, 2-venule, 3-capillary, 4-arteriole, 5-artery

8. Which structure is responsible for the exchange of materials between the blood and cells?

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5

9. What type of heart do amphibians have?

- a) A two chambered heart with one atria and one ventricle
- b) A two chambered heart with two atria and one ventricle
- c) A three chambered heart with tow atria and one ventricle
- d) A three chambered heart with one alria and two ventricles
- e) A four chambered heart with two atria and two ventricles

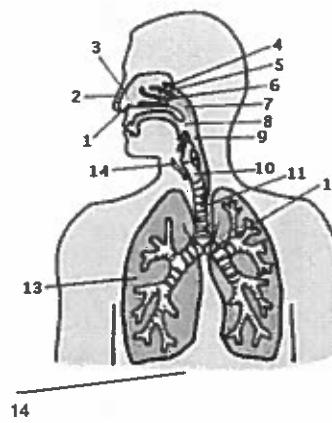
10. What does the septum do?

- a) Pumps blood to the body
- b) Pumps blood to the lungs
- c) Receives blood from the body
- d) Receives blood from the lungs
- e) Separate oxygenated blood from deoxygenated blood

11. Which part of the circulatory system is affected during angioplasty?

- a) Arteries
- b) blood
- c) capillaries
- d) heart
- e) veins

Refer to the diagram below for questions 12 – 15



12. Which structure moves down when air is inhaled through the nose or mouth?

- a) 14
- b) 13
- c) 10
- d) 2

13. Which structure moistens incoming air?

- a) 3
- b) 11
- c) 7
- d) 12

14. The bronchus carries air into which structure?

- a) 12
- b) 4
- c) 13
- d) 10

15. Which structure connects the mouth and nose?

- a) epiglottis
- b) larynx
- c) lung
- d) nasal cavity
- e) pharynx