

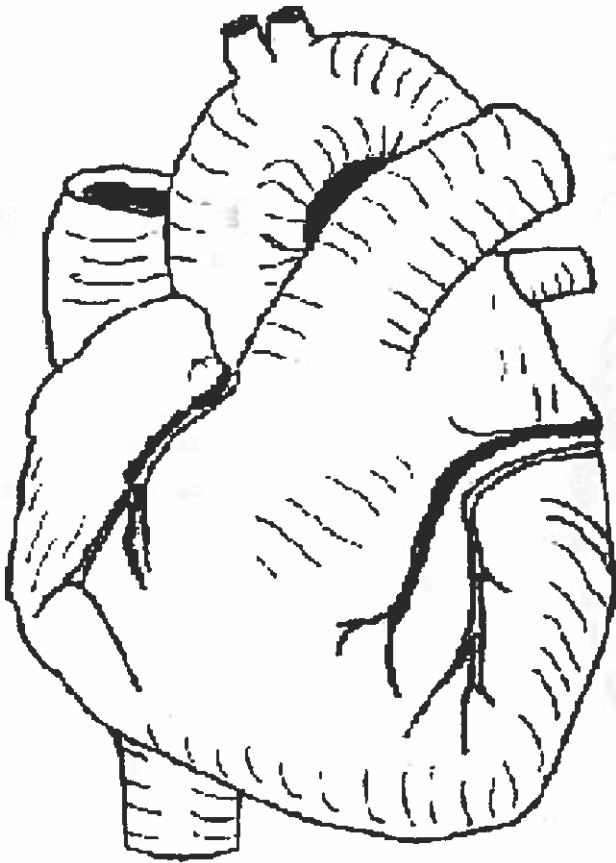
Name _____

Date _____

Chapter 9 Cardiovascular and Lymphatic System

1. The diagram below shows an external view of the mammalian heart. *Show the positions of the following structures on the diagram.*

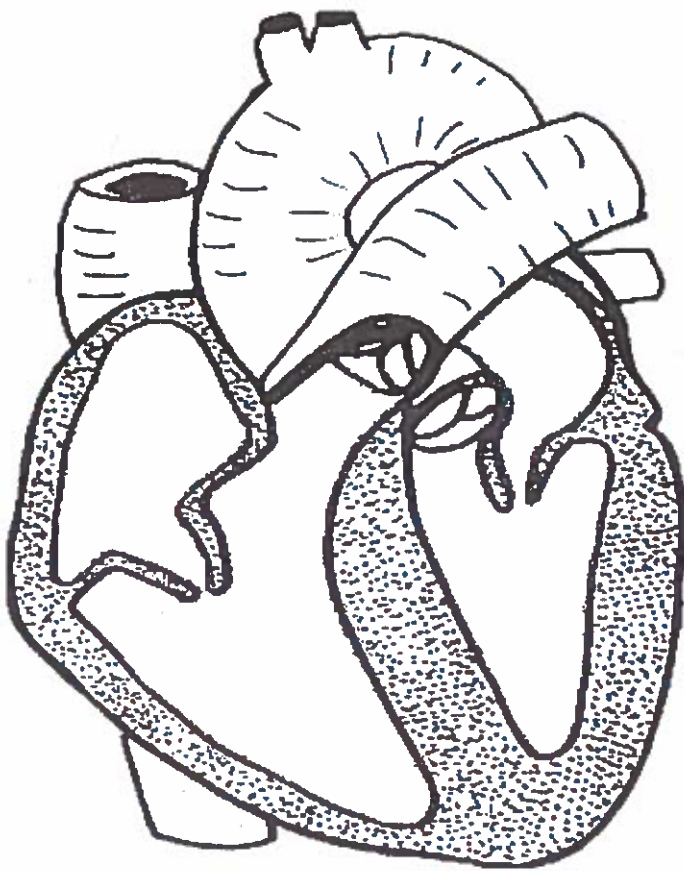
Right atrium, left atrium, right ventricle, left ventricle, aorta, caudal vena cava, pulmonary artery, coronary artery, cranial vena cava.



2. The diagram below shows a section through the heart seen from the same direction as the external view in question 1.

a) Label the following structures:

right and left atria, right and left ventricles, caudal and cranial vena cava, aorta, pulmonary artery and vein, right and left atrio-ventricular valves, pulmonary and aortic semilunar valves.



3. Choose terms from the list to complete the sentences below.

atria; right hand side; vena cava; ventricles; atrioventricular valves; pacemaker; pulmonary artery; veins; arteries; left hand side; aorta, coronary artery;

- _____ The top two chambers of the heart are called _____
- _____ These structures stop blood flowing backwards into the atria.
- _____ This side of the heart receives oxygenated blood.
- _____ This is the largest artery in the body.
- _____ These are blood vessels that carry blood towards the heart.
- _____ This structure sets the speed of the heart beats.
- _____ This blood vessel supplies the heart muscle with oxygenated blood?

4. Arrange these events in the correct order starting with F.

- _____ A. The left ventricle contracts and blood flows along the aorta to the body
- _____ B. The blood flows through the right atrio-ventricular valve into the right ventricle.
- _____ C. Oxygenated blood flows along the pulmonary veins into the left atrium
- _____ D. The blood passes through the left atrio-ventricular valve into the left ventricle
- _____ E. The left atrium contracts
- _____ F. Deoxygenated blood flows from the caudal and cranial vena cavae into the right atrium.
- _____ G. The deoxygenated blood picks up oxygen
- _____ H. The right atrium contracts
- _____ I. The right ventricle contracts and blood flows along the pulmonary artery to the lungs

5. Complete the table below:

Name of Blood Cell	Nucleus	Granules in cytoplasm	Function
Erythrocyte	None	No	.....
.....	.....	.....	Phagocytosis
Granulocyte	.....	.....	.....
.....	Large & spherical	.....	Makes antibodies
Platelets	.....	No	.....

6. Match the blood cell with the correct function/description.

lymphocyte; granulocyte; erythrocyte; monocyte

_____ Makes antibodies.
 _____ Carries oxygen.
 _____ Largest blood cell.
 _____ Granules in cytoplasm, engulfs bacteria.

7. This is NOT a function of blood.

- a) Transporting carbon dioxide to the lungs
- b) Transporting heat around the body
- c) Protecting the body from infection
- d) Producing new red blood cells.
- e) Transporting water to the cells

6. Match the words given below with the statements

adrenaline; anaemia; bone marrow; haemoglobin; fibrinogen; erythrocytes

- _____ Most blood cells are made here.
 _____ A hormone that increases heart rate.
 _____ The pigment in red blood cells that enables them to carry large quantities of oxygen.
 _____ A protein in the blood that is essential for clotting.
 _____ A major symptom of this condition is the reduction of the amount of haemoglobin in the blood.
 _____ Red blood cells.

7. Arrange the following types of blood vessel in the correct order as blood would flow down them from the heart to the body and back to the heart again.

A. other veins; B. venules; C. capillaries; D. arterioles; E. other arteries. F. vena cava; G. aorta

Heart
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8. Fill in the blanks in the following table on arteries, veins and capillaries.

	Arteries	Capillaries	Veins
Thickness of wall	Very thin	.....
Direction of blood flow	Towards heart
Valves present?	No	.....
Carry oxygenated/deoxygenated blood?

9. True or false? If false give the correct answer.

Arteries only carry oxygenated blood. T / F

Capillaries have valves in them to stop the blood flowing backwards. T / F

10. Name the vessel that:

_____ Carries oxygenated blood to the heart muscle

_____ Supplies the brain with oxygenated blood

_____ Carries deoxygenated blood to the lungs_

_____ Carries blood from the intestines to the liver

_____ Carries deoxygenated blood away from the kidneys

11. Compare plasma, serum, tissue fluid and lymph by filling in the cells in the table below.

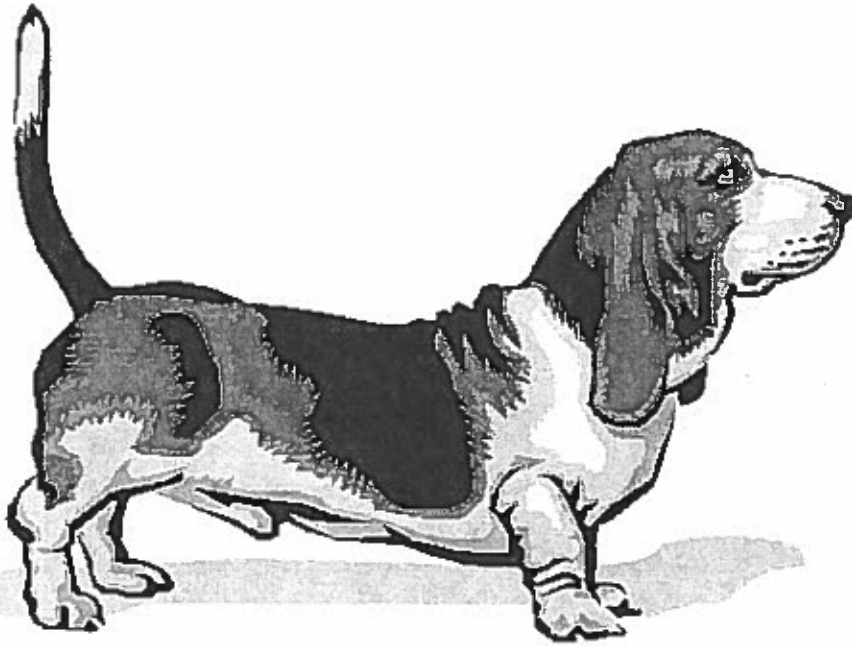
	Blood plasma	Serum	Tissue fluid	Lymph
Definition/where found	Clear fluid part of blood			Fluid in lymphatic vessels

12. This is a function of lymph nodes:

- a) Adding protein to lymph
- b) Filtering bacteria and debris from lymph
- c) Producing granulocytes
- d) Helping blood to clot

13. Mark the positions of the following lymph nodes on the picture of the dog below.

Popliteal; superficial inguinal; prescapular; parotid



14. Name three organs of the lymphatic system (other than lymph nodes).

- i.
- ii.
- iii.

15. Describe the function of the lymphatic system

16. True or false?

A major function of lymph nodes is to filter foreign substances from the lymph. T / F

The spleen is the largest lymphatic organ. T / F

The spleen is an important store of white blood cells. T / F

The thymus gland is located cranially to the heart T / F

A major function of the thymus is to produce monocytes. T / F

