

## Word Dissection

Word root	Translation	Example	Word root	Translation	Example
1. agglutin	glued together	agglutination	9. karyo	nucleus	megakaryocyte
2. album	egg white	albumin	10. leuko	white	leukocyte
3. bili	bile	bilirubin	11. lymph	water	lymphatic system
4. embol	wedge	embolus	12. phil	love	neutrophil
5. emia	blood	anemia	13. poiesis	make	hemopoiesis
6. erythro	red	erythrocyte	14. rhage	break out	hemorrhage
7. ferr	iron	ferritin	15. thromb	clot	thrombocyte
8. hem	blood	hemoglobin			

## Chapter 18 The Cardiovascular System: The Heart

## BUILDING THE FRAMEWORK

## Heart Anatomy

1. mediastinum 2. diaphragm 3. second 4. midsternal line 5. fibrous 6. visceral 7. epicardium 8. friction
9. myocardium 10. cardiac muscle 11. cardiac skeleton 12. endocardium 13. endothelial 14. 4 15. atria
16. ventricles 17. pectinate muscles 18. trabeculae carneae

2.

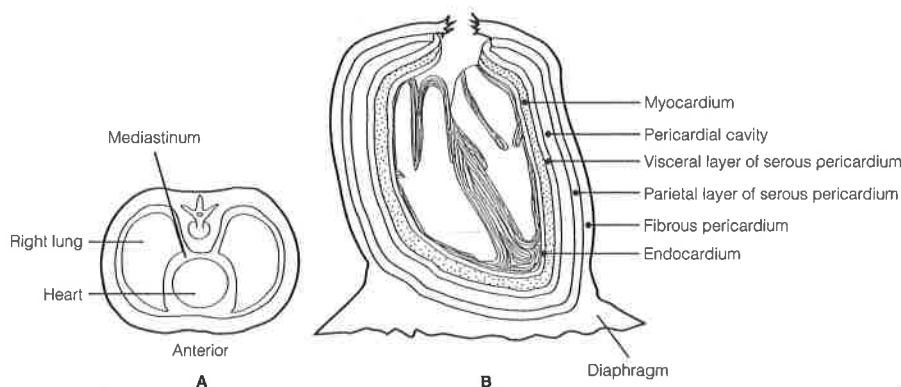


Figure 18.1

1. right ventricle 2. pulmonary valve 3. pulmonary arteries 4. lungs 5. right and left pulmonary veins 6. left atrium 7. mitral (bicuspid) 8. left ventricle 9. aortic 10. aorta 11. capillary beds 12. superior vena cava 13. inferior vena cava

In answer for Figure 18.2, the white areas represent regions transporting  $O_2$ -rich blood. The gray vessels transport  $O_2$ -poor blood.

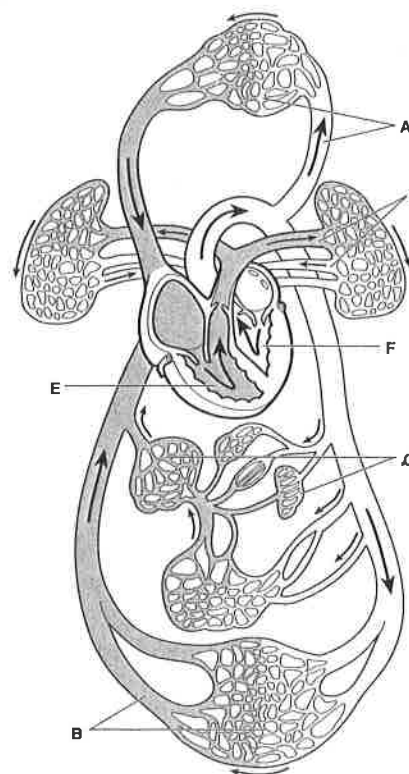


Figure 18.2

4. Figure 18.3: 1. right atrium 2. left atrium 3. right ventricle 4. left ventricle 5. superior vena cava 6. inferior vena cava 7. aorta 8. pulmonary trunk 9. left pulmonary artery 10. right pulmonary artery 11. right pulmonary veins 12. left pulmonary veins 13. vessels of coronary circulation 14. apex of heart 15. ligamentum arteriosum

5.

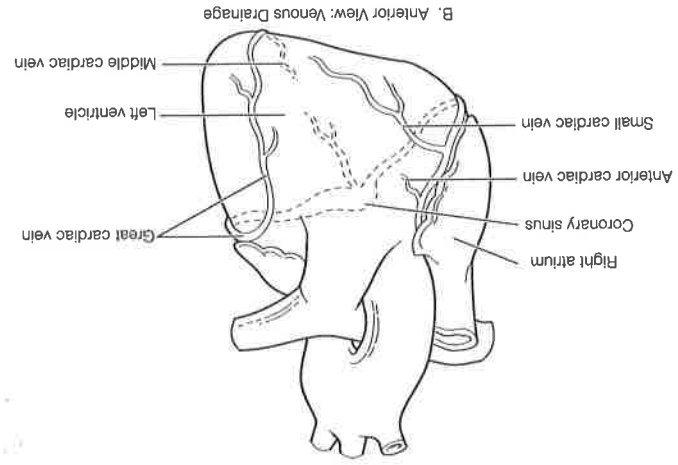
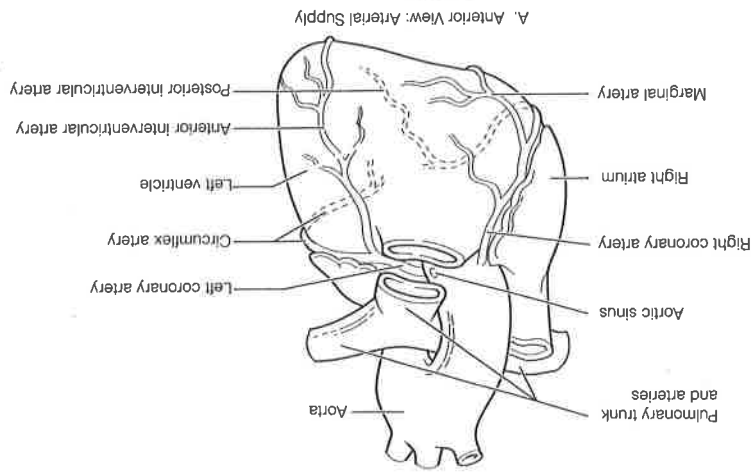


Figure 18.4

Cardiac Muscle Fibers

1. I. C
2. C
3. C
4. C
5. S
6. S
7. C
8. S
9. C
10. S
11. C
12. C

2.

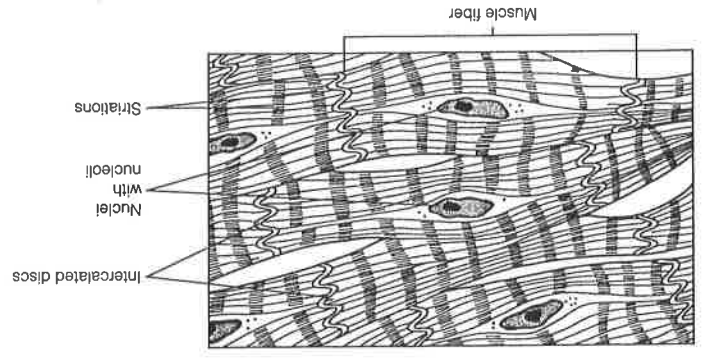


Figure 18.5

1. endomysium
2. prevent separation of adjacent cells
3. allow impulse (ions) to pass from cell to cell
4. functional syncytium
5. gap junctions

# STRUCTURE OF THE HEART

## PART A

Match the terms in column A with the descriptions in column B. Place the letter of your choice in the space provided.

### Column A

- a. Aorta
- b. Atrium
- c. Bicuspid valve
- d. Cardiac vein
- e. Coronary artery
- f. Coronary sinus
- g. Endocardium
- h. Myocardium
- i. Papillary muscle
- j. Pericardial cavity
- k. Pericardial sac
- l. Pulmonary trunk
- m. Tricuspid valve

### Column B

- B 1. Upper chamber of heart
- F 2. Structure from which chordae tendineae originate
- M 3. Prevents blood movement from right ventricle to right atrium
- K 4. Double-layered membrane around heart
- C 5. Prevents blood movement from left ventricle to left atrium
- L 6. Gives rise to left and right pulmonary arteries
- F 7. Drains blood from myocardium into right atrium
- G 8. Inner lining of heart chamber
- H 9. Layer largely composed of cardiac muscle tissue
- J 10. Space containing serous fluid
- D 11. Drains blood from myocardial capillaries
- E 12. Supplies blood to heart muscle
- A 13. Distributes blood to body organs (systemic circuit) except lungs

## PART B

Complete the following:

1. Compare the structure of the tricuspid valve with that of the pulmonary valve. \_\_\_\_\_

SKIP

2. Describe the action of the tricuspid valve when you squeezed the water-filled right ventricle. \_\_\_\_\_

Flaps Move Upward and close

3. Describe the function of the chordae tendineae and the papillary muscles. \_\_\_\_\_

Skip

(Keep Valves from going up into Atria)

4. What is the significance of the difference in thickness between the wall of the aorta and the wall of the pulmonary trunk? \_\_\_\_\_

Aorta - Thick More Blood Pressure

5. List in order the major blood vessels, chambers, and valves through which blood must pass in traveling from a vena cava to the aorta. \_\_\_\_\_

Vena Cava → Rt. Atrium → Tricuspid → Rt. Ventricle → Pulmonary Valve  
Pulmonary Trunk → Lt. + Rt. Pulmonary Arteries → Lungs → Pulmonary Veins  
Left Atrium → Bicuspid Valve → Left Ventricle → Aortic Valve → Aorta



### Critical Thinking Application

What is the significance of the difference in thickness of the ventricular walls?

Left Ventricle Thicker, Pumping to Rest of Body + Back

Rt. Ventricle Thinner, Pumping just to Lungs + Back