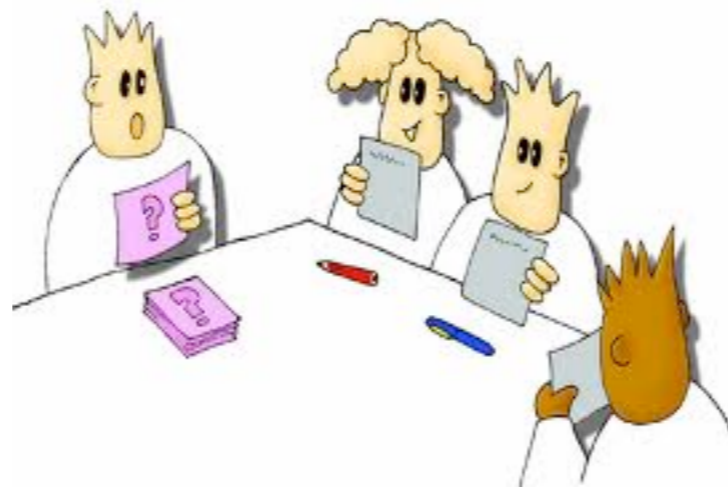
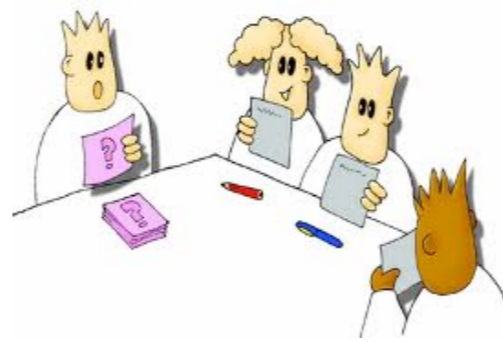


The Heart 6.2

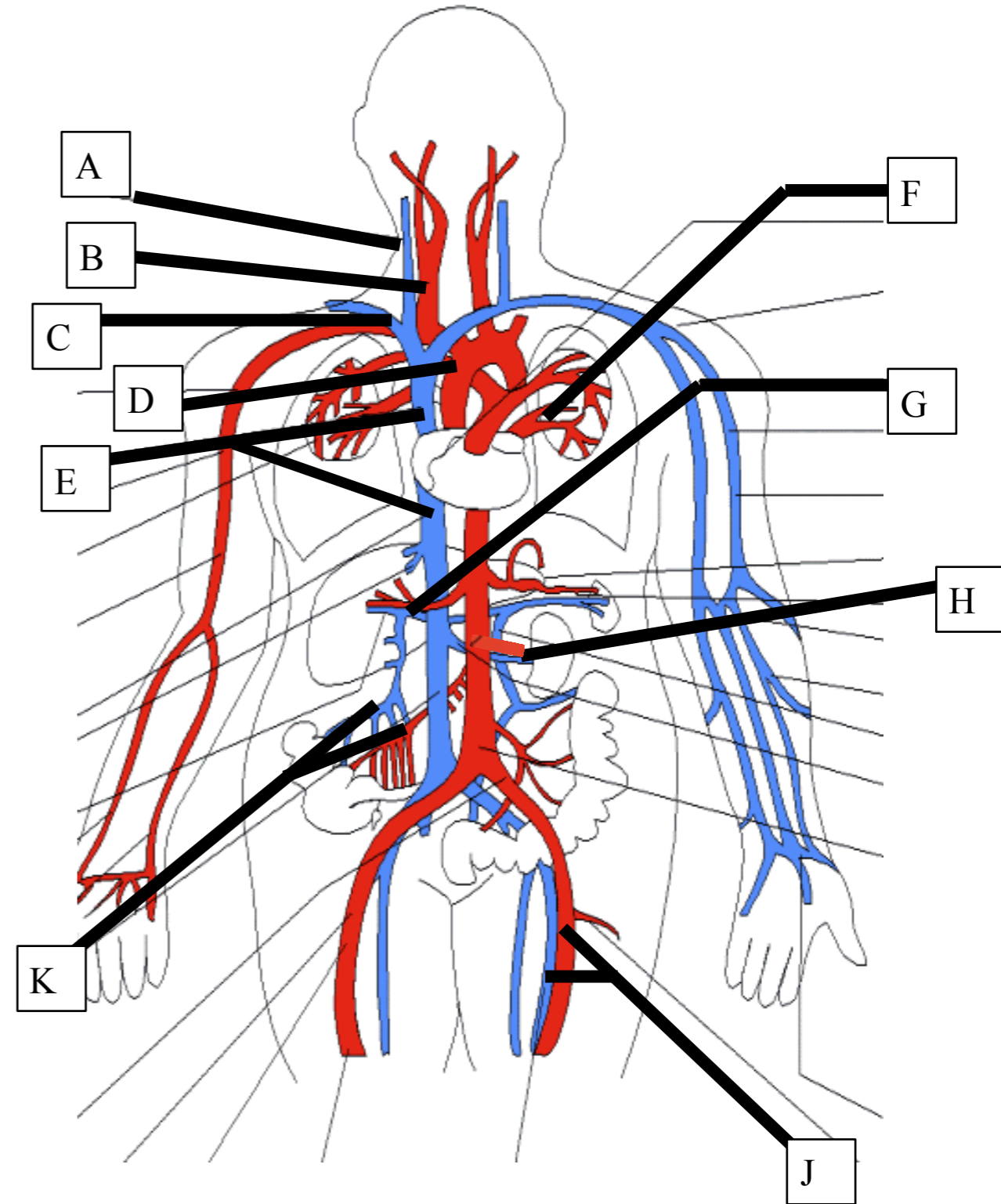


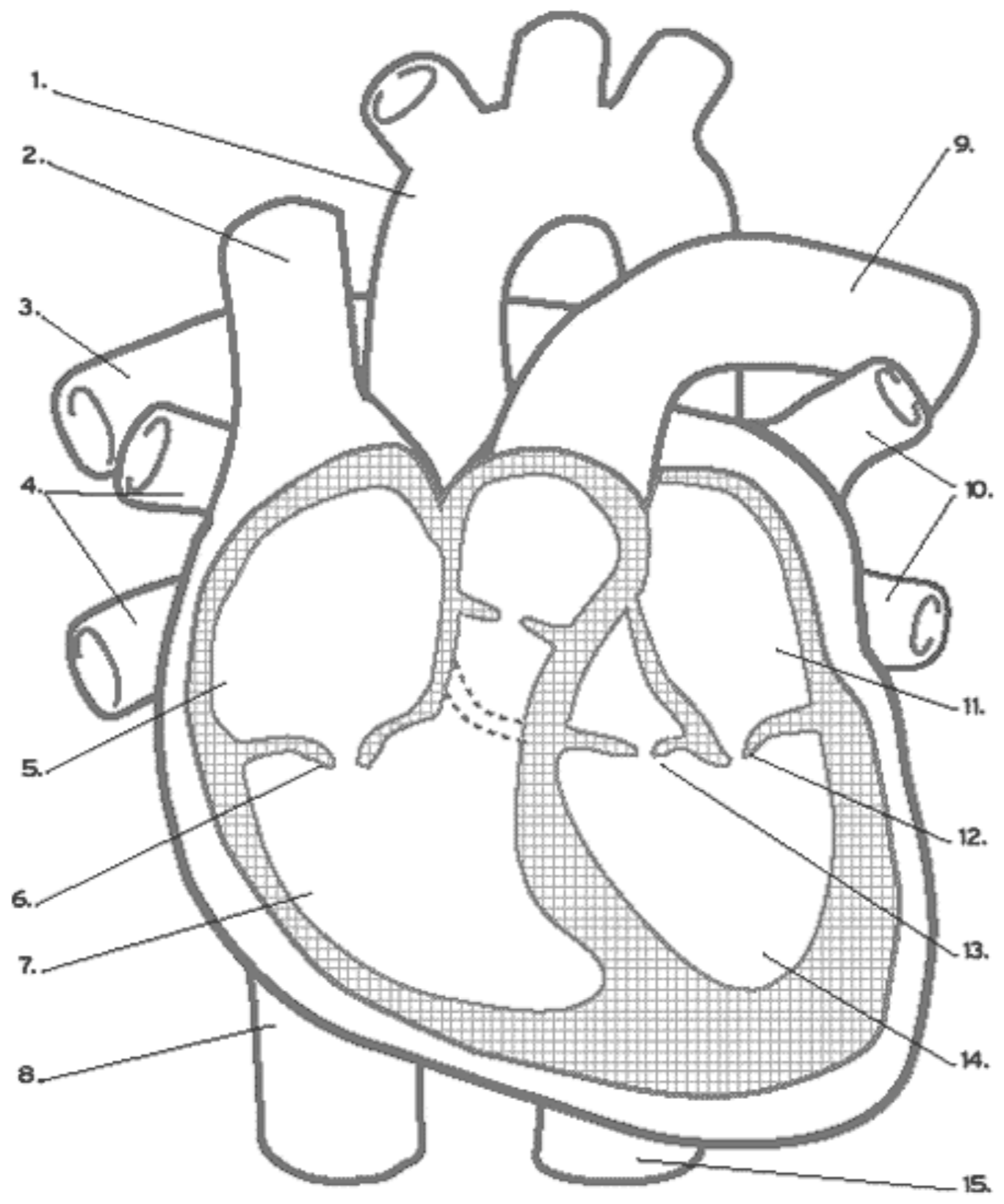


- List 3 differences of **arteries and vein**
- List 3 layer of **arteries and veins**
- List 3 characteristics of **capillaries**



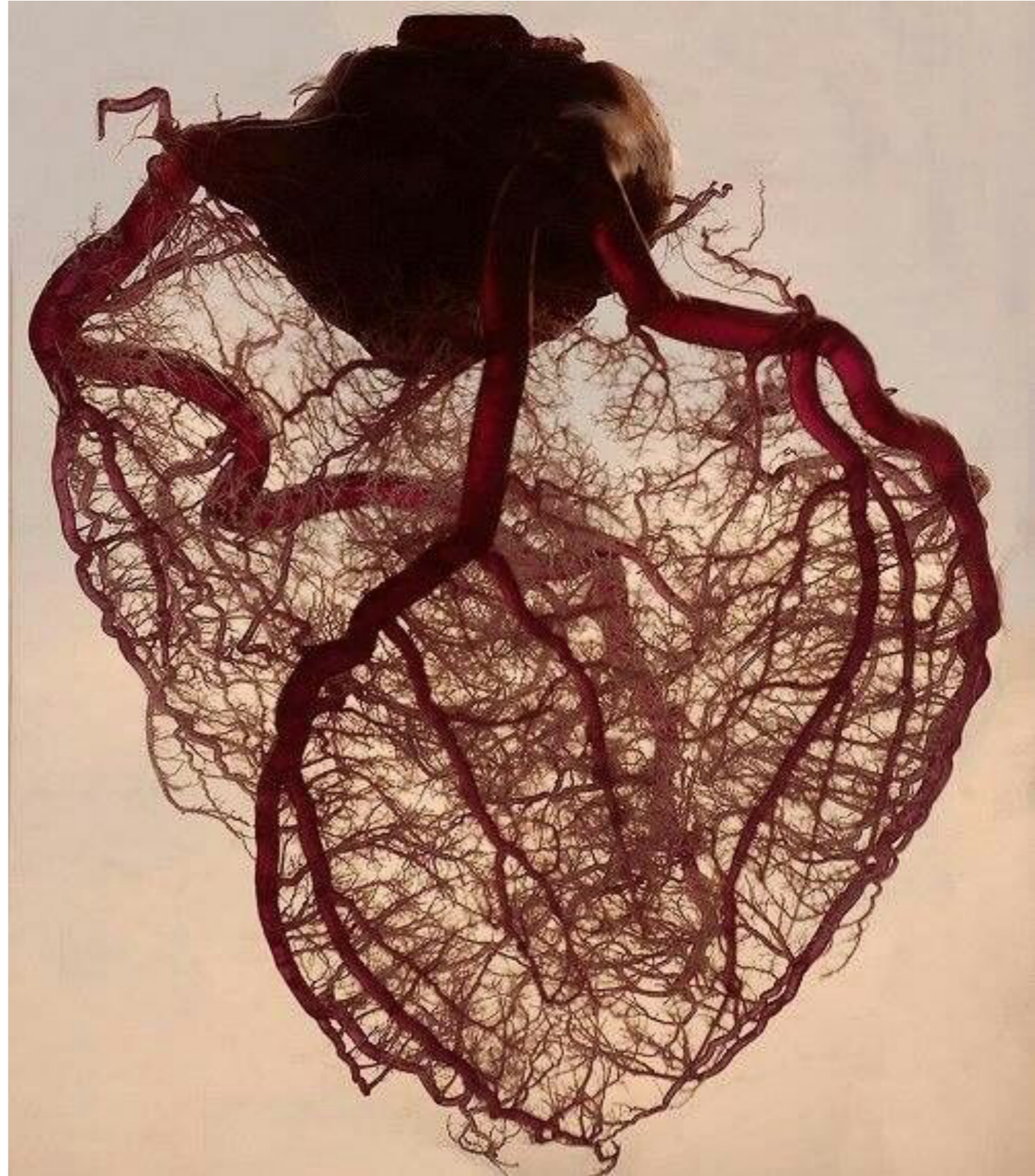
- Make a flow chart of a blood cell as it leaves the heart, goes to the **brain** and returns to the heart.





Heart Muscle

- contract on their own without nerve impulse
- supplied with blood from the coronary artery



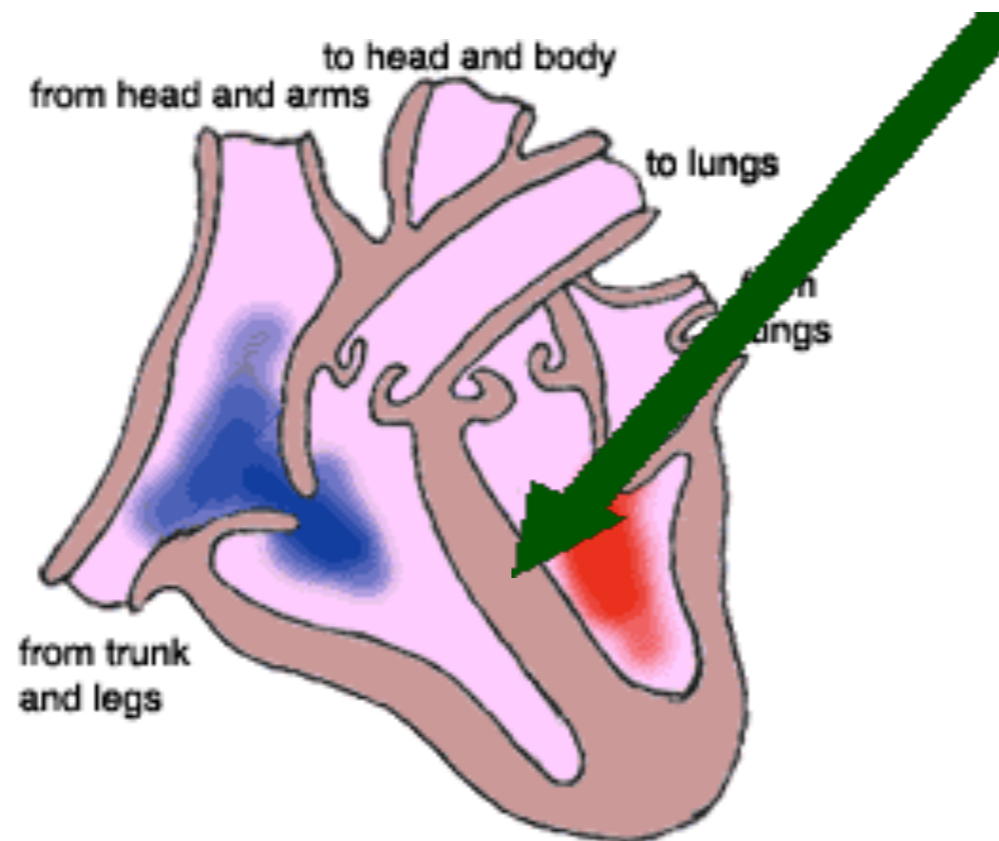
The Human Heart

- The heart is surrounded by the **pericardium** (membrane that protects it)



The Human Heart

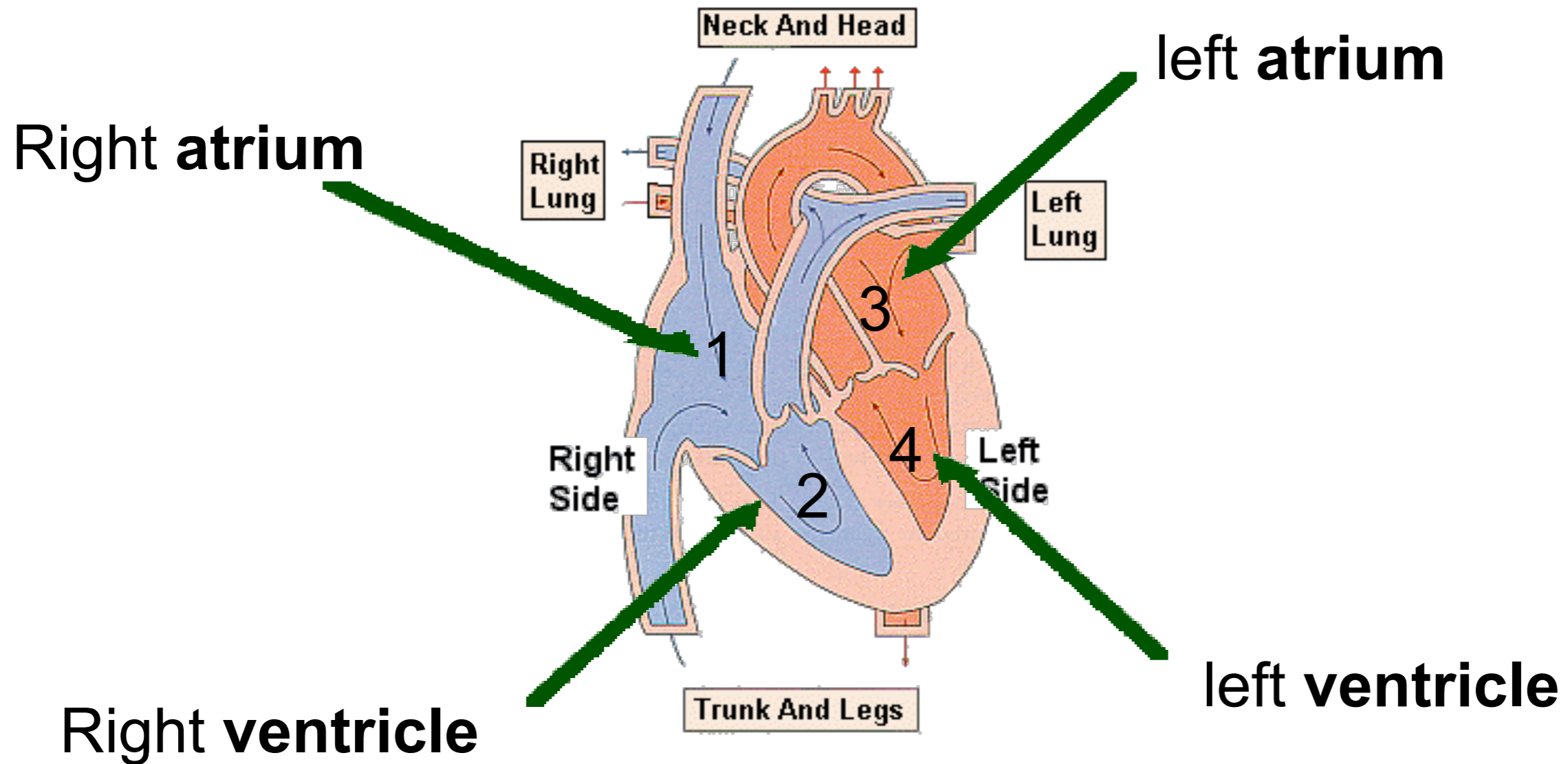
- 2 parallel pumps separated by the **septum** (a wall of muscle)



- **right side** pump sends **de-oxygenated** blood to the lungs for oxygen
- **left side** pump sends **oxygenated** blood to the body

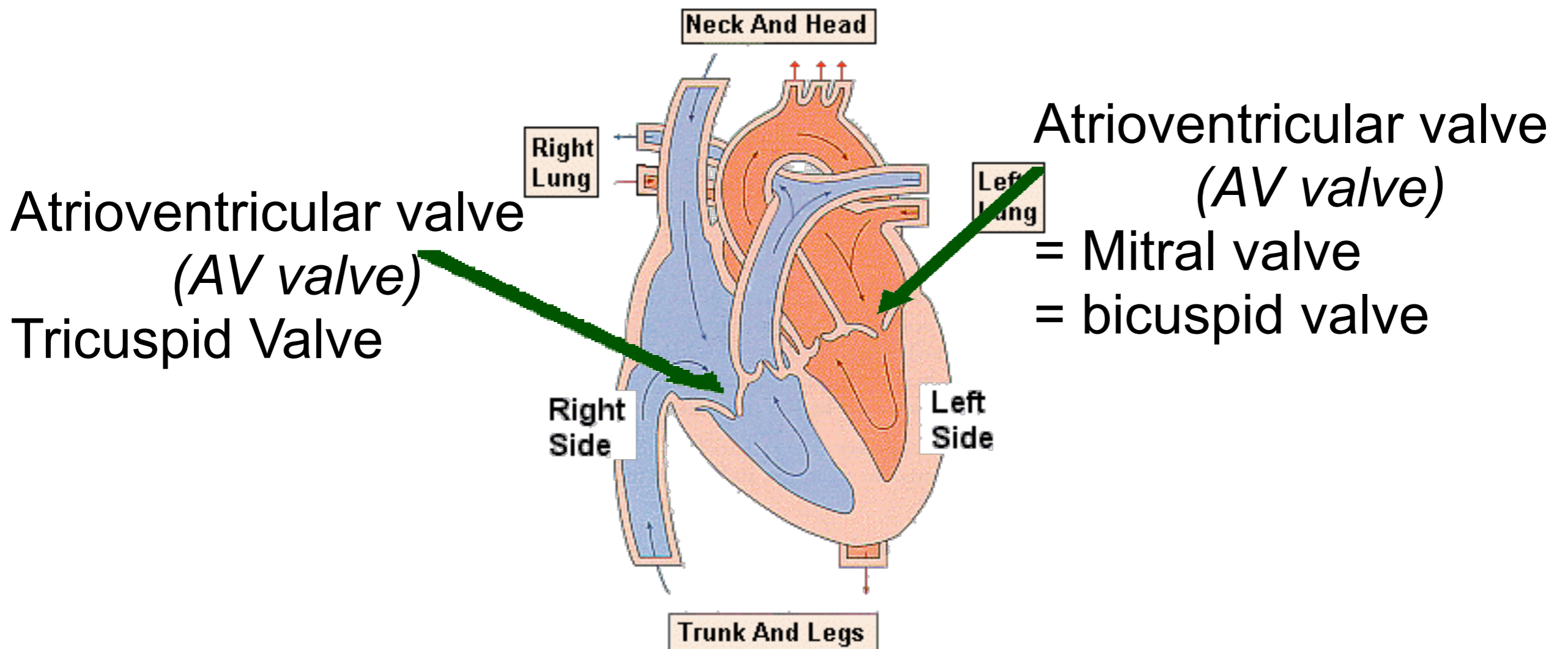
The Human Heart

- 4 chambers (2 on each side)



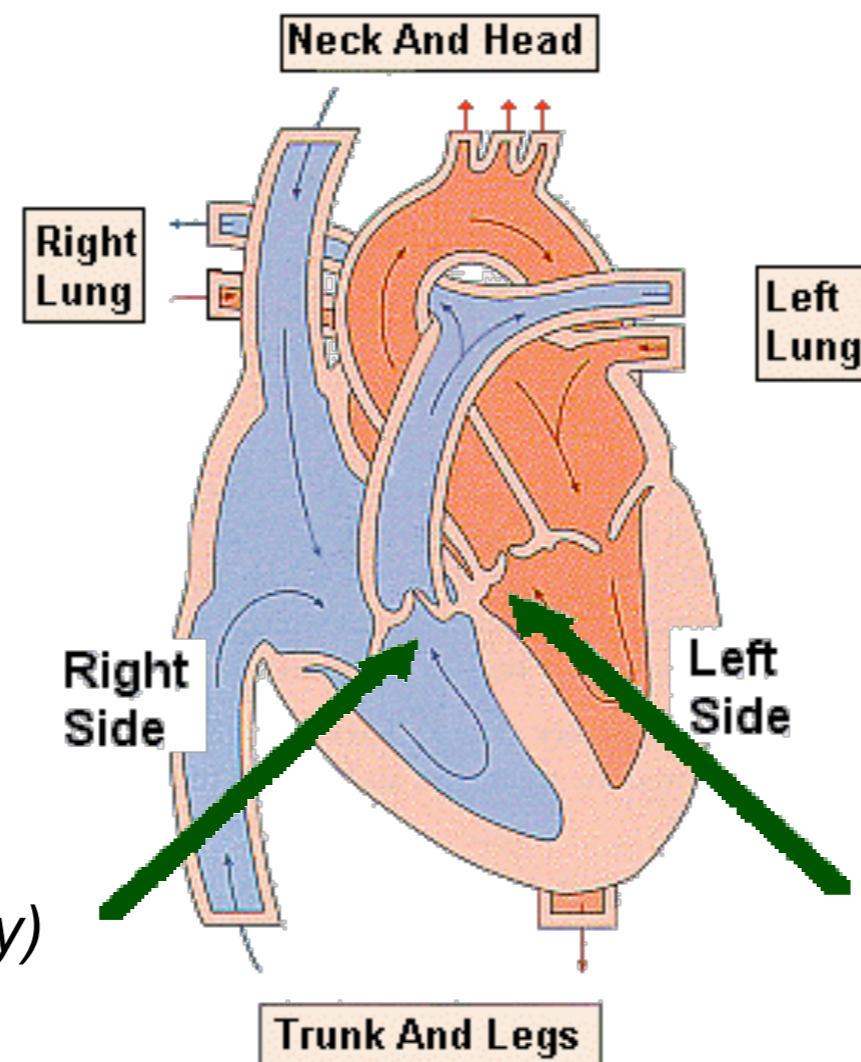
The Human Heart

- blood only flows in one direction--->valves ensure one-way flow



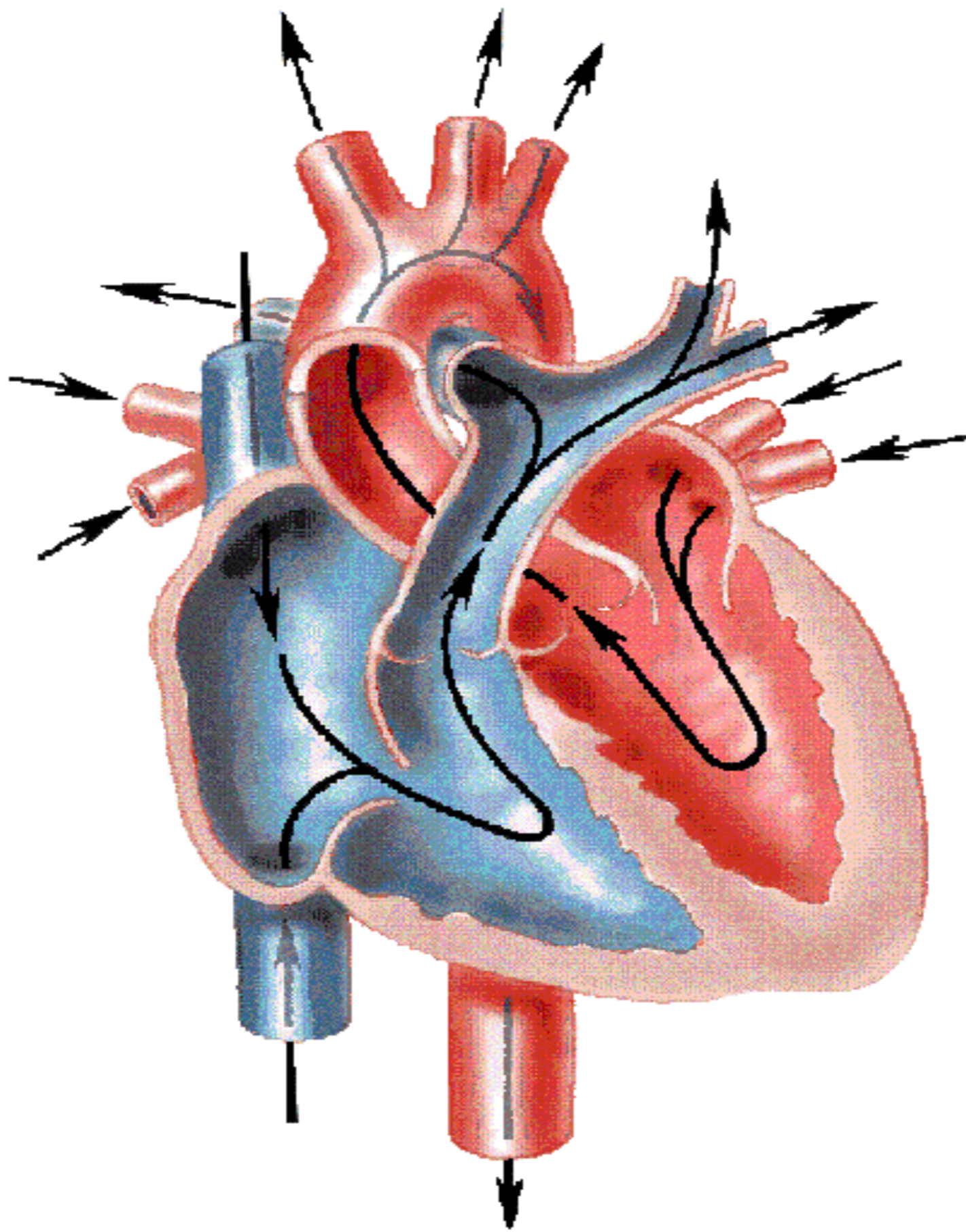
The Human Heart

- blood only flows in one direction--->valves ensure one-way flow



Semilunar valve
(between ventricle & artery)

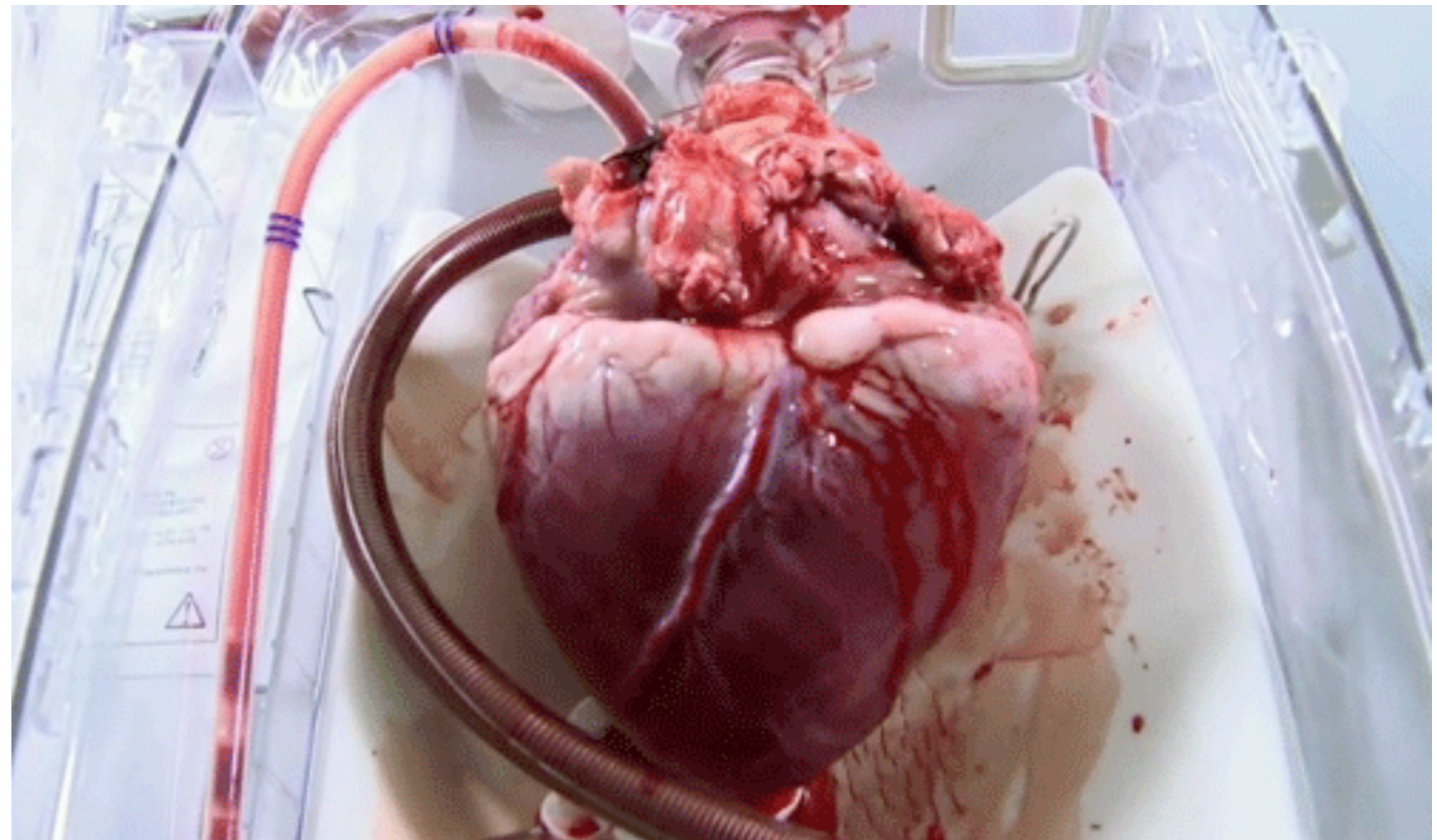
Semilunar valve
(between ventricle & artery)

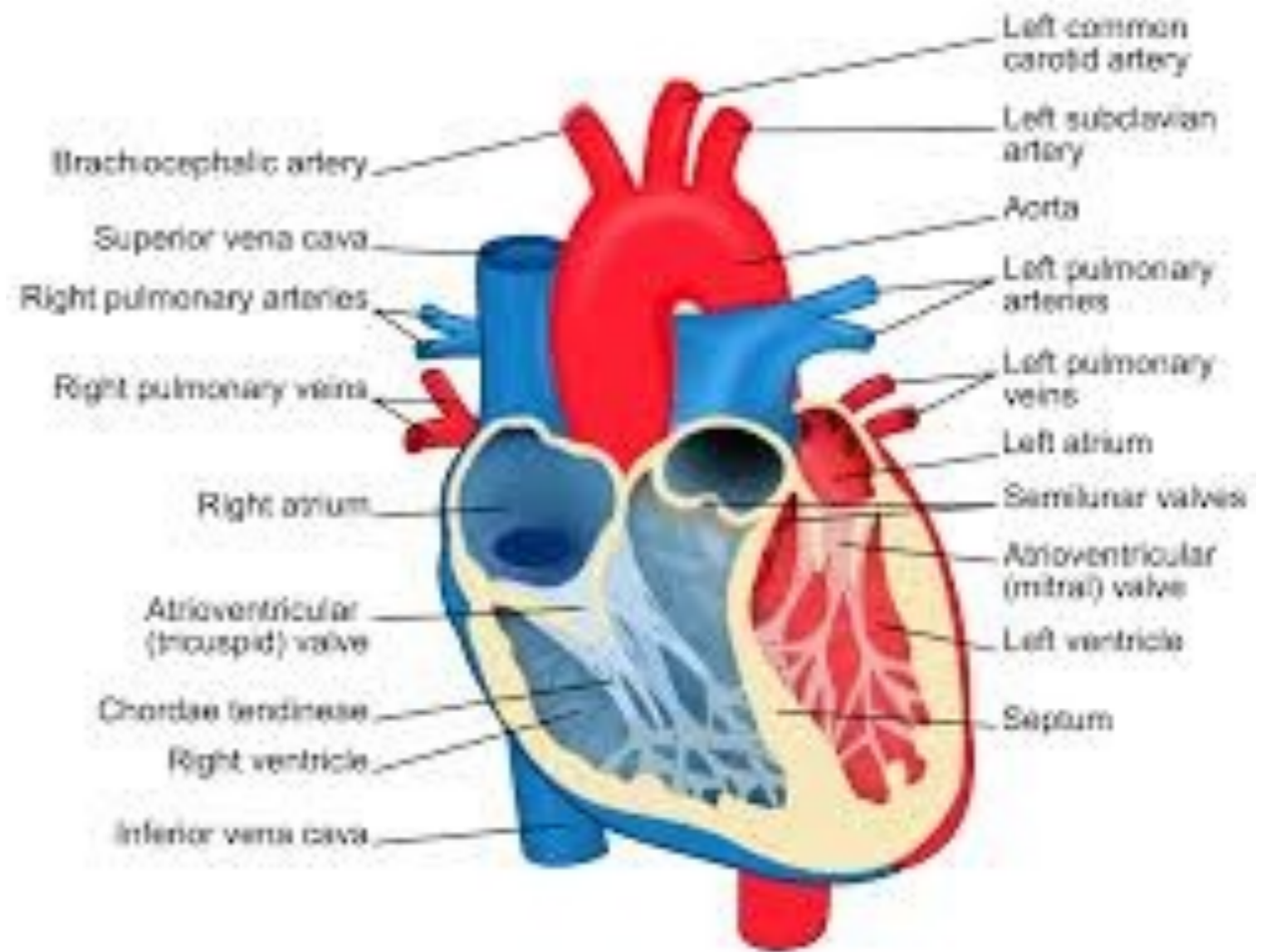
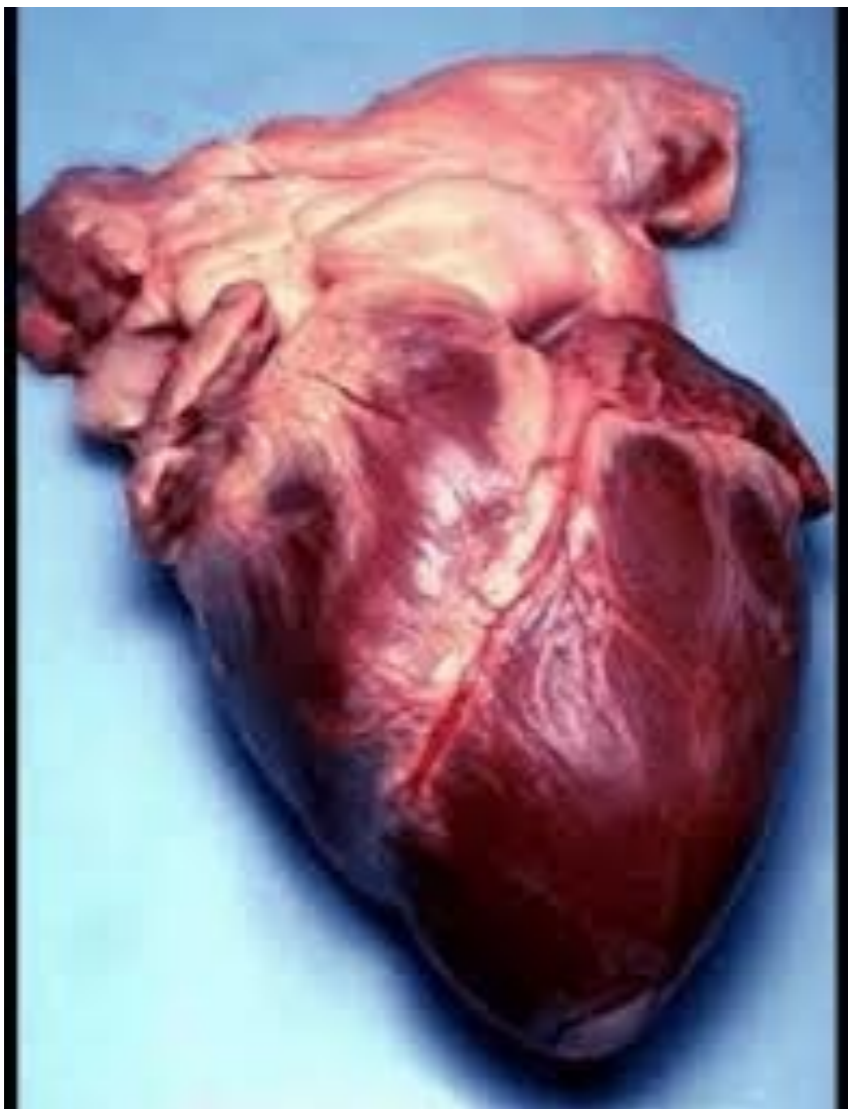


- *Create a Flow Chart showing the path a blood cell follows from the time it enters the heart (inferior vena cava) to the time it leaves the heart and goes to the brain*

The Human Heart

- The ventricles contract together (lub)
 - the atrioventricular valves close;
- The atria contract together (dub)
 - the semilunar valves close
- heart beat = lub dub





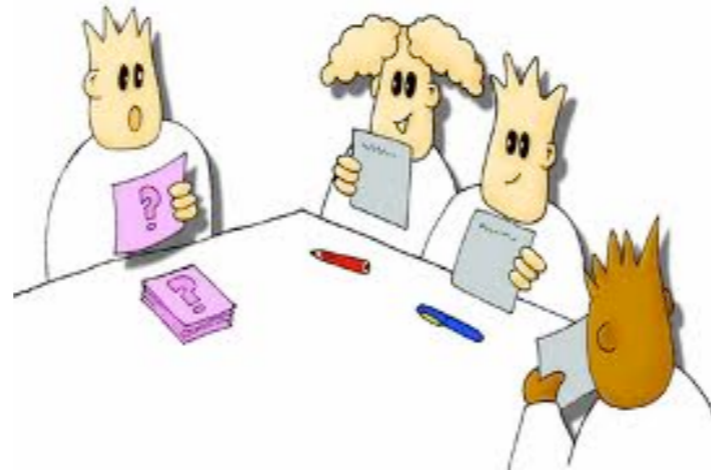
Structural Defects in the Heart

heart murmur - occurs when the valves do not close properly

- blood goes backward & the 'lub dub' sound is not so clear (= murmur).

hole in the heart - occurs when there is a hole in the septum between the ventricles

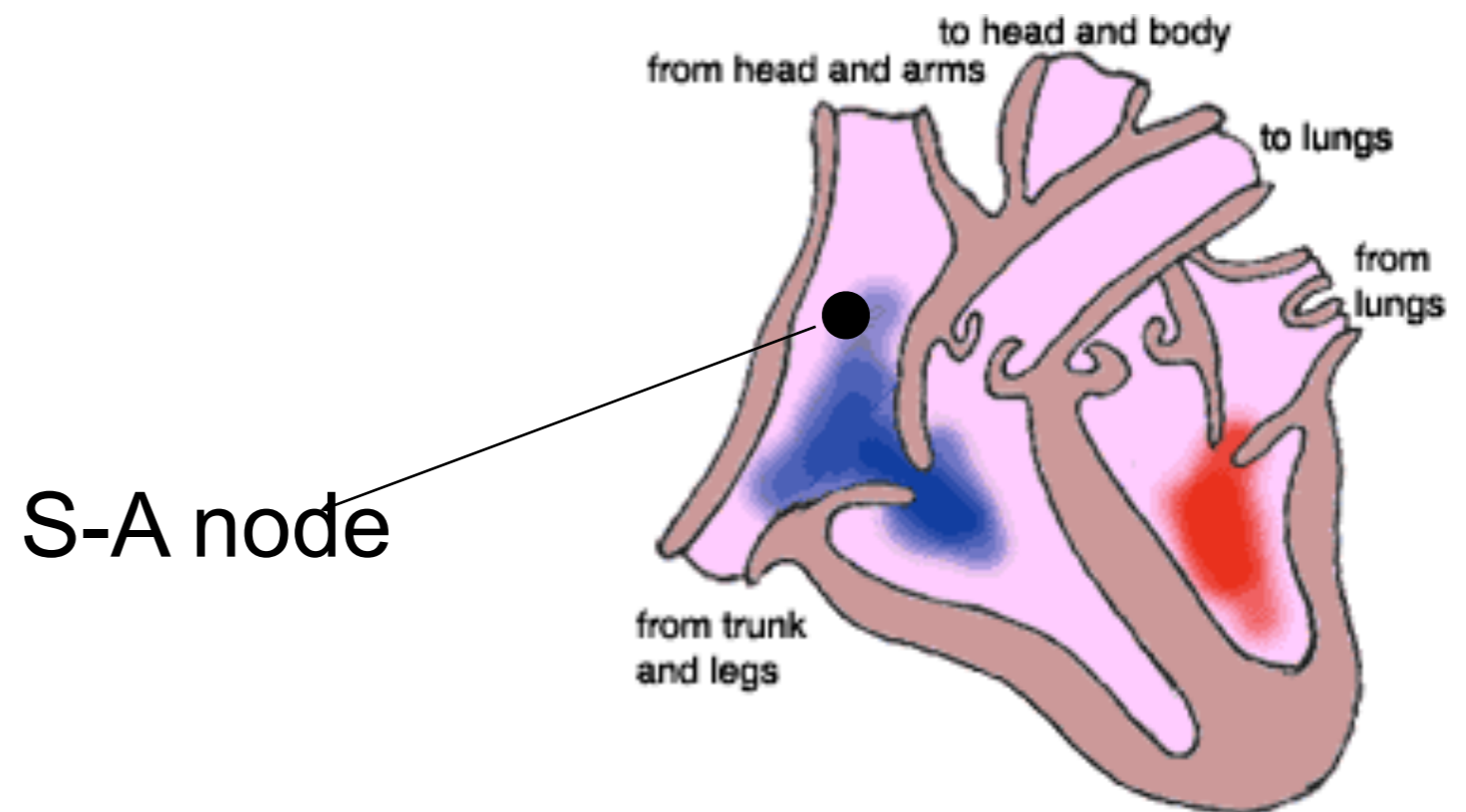
-deoxygenated & oxygenated blood mix



- If a human has a hole in the heart, what type of heart is this similar to? Explain.
- Why is it important that blood does not flow backward in the heart?
-

Control of Heartbeat

- impulse originates from within our heart
- found in wall of R atrium
 - = sinoatrial node (S-A node) initiates each beat
 - aka. pacemaker*



Regulation of Heartbeat

Changes in heart rate changes are initiated in the medulla oblongata by two nerve

- one nerve from medulla initiate increase in heart rate
- one nerve from medulla initiate decrease in heart rate (H.R.)

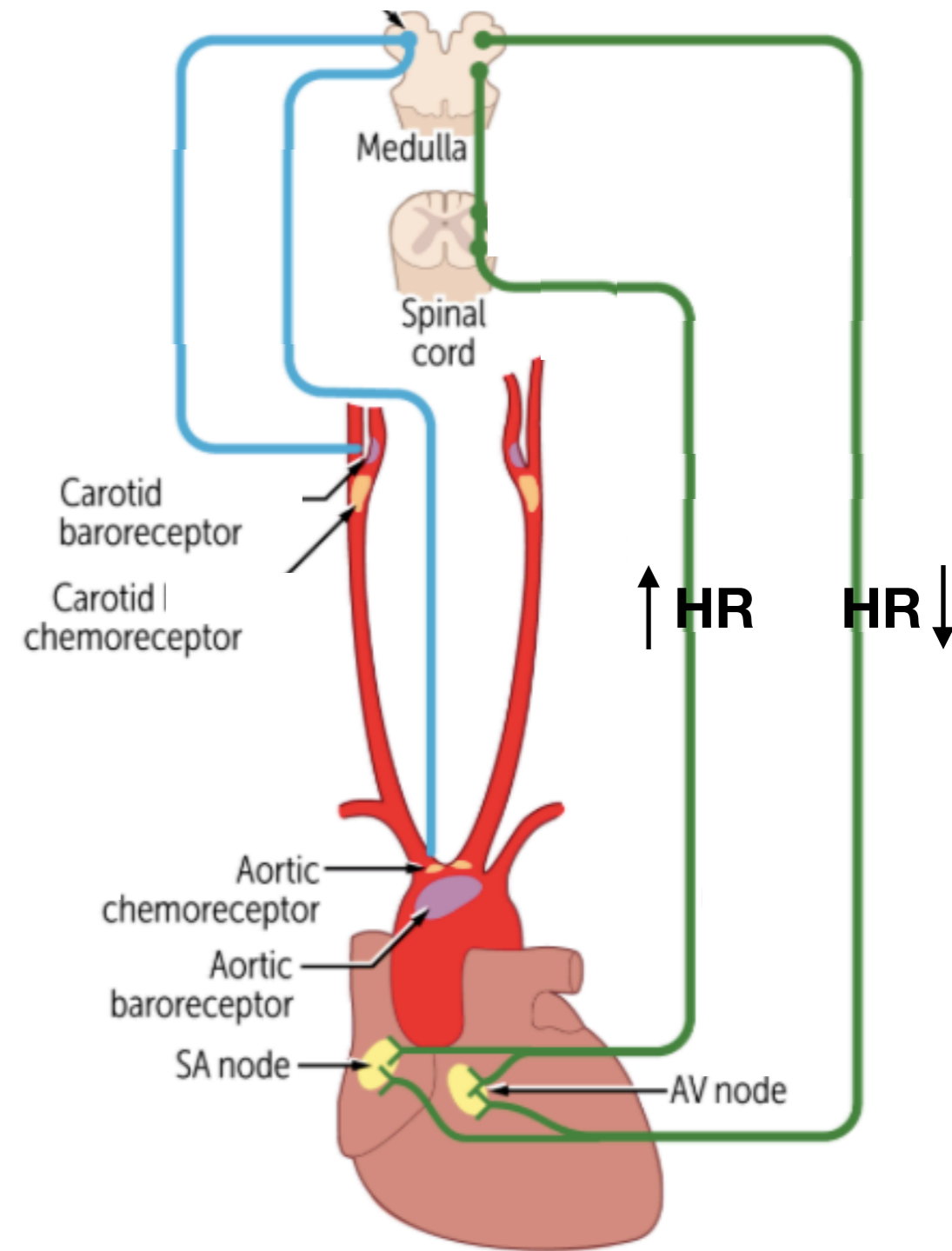
The medulla receives info about blood chemistry by receptors in the major arteries (Aorta, Carotid)

Low O₂ , Low pH, Low pressure (BP)

INCREASES H.R.

High O₂ , high pH, high BP

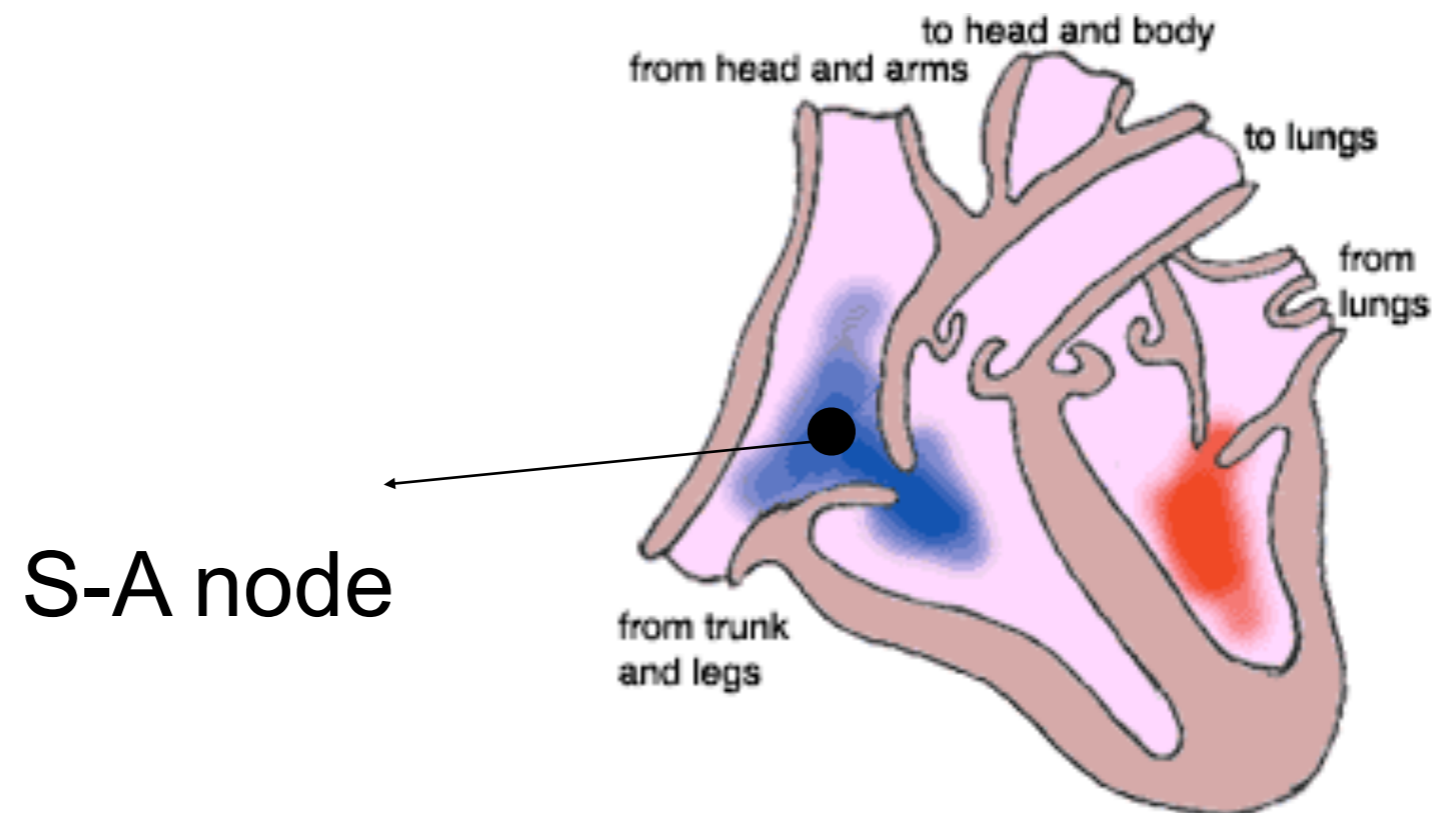
DECREASES H.R.





Control of Heartbeat

- 1st pacemaker made by a Canadian
- John Hopps in 1950



What is Your Heart Rate?

	Males beats/min	Females beats/min
Laying Down		
Sitting		
Standing		
After Stress		