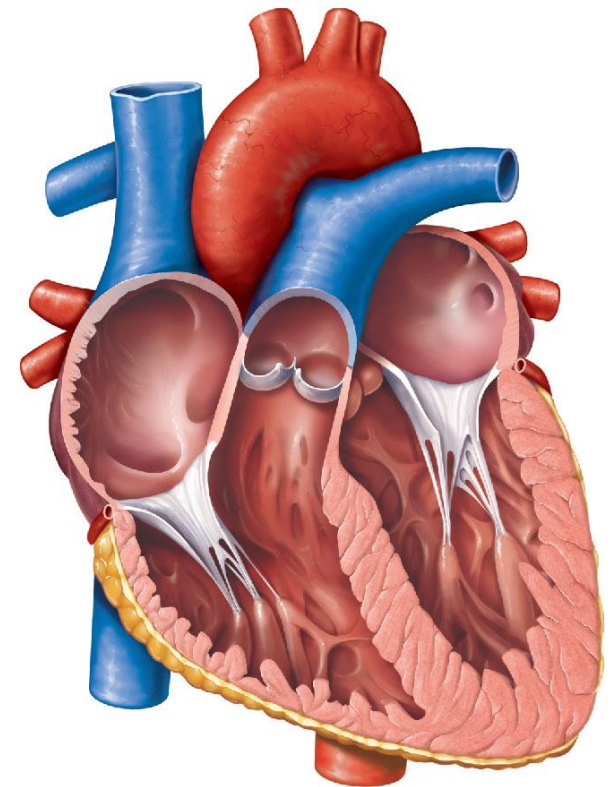


Internal Anatomy of the Heart

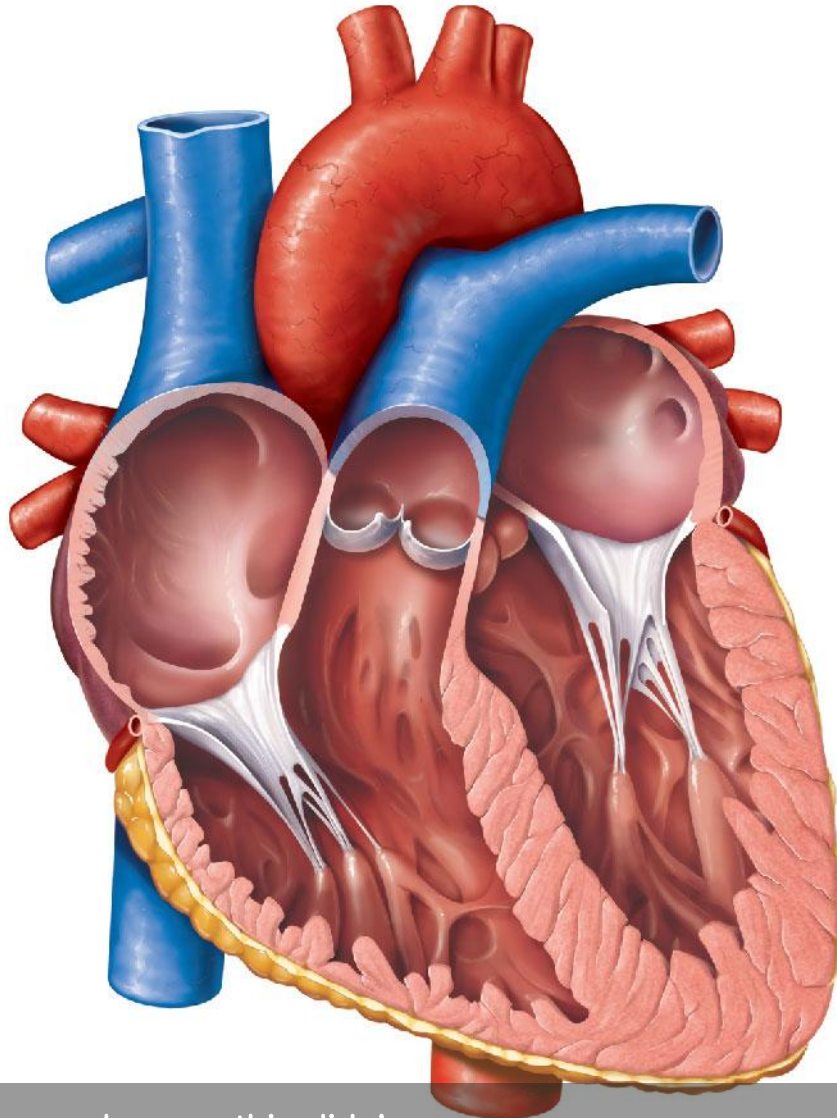
- Heart is divided **laterally** into a right and left side by a thin longitudinal partition called the **septum**
- Division creates **four** chambers of the heart:
 - Two **superior** atria
 - Right atrium
 - Left atrium
 - Two **inferior** ventricles
 - Right ventricle
 - Left ventricle



Internal Anatomy of the Heart

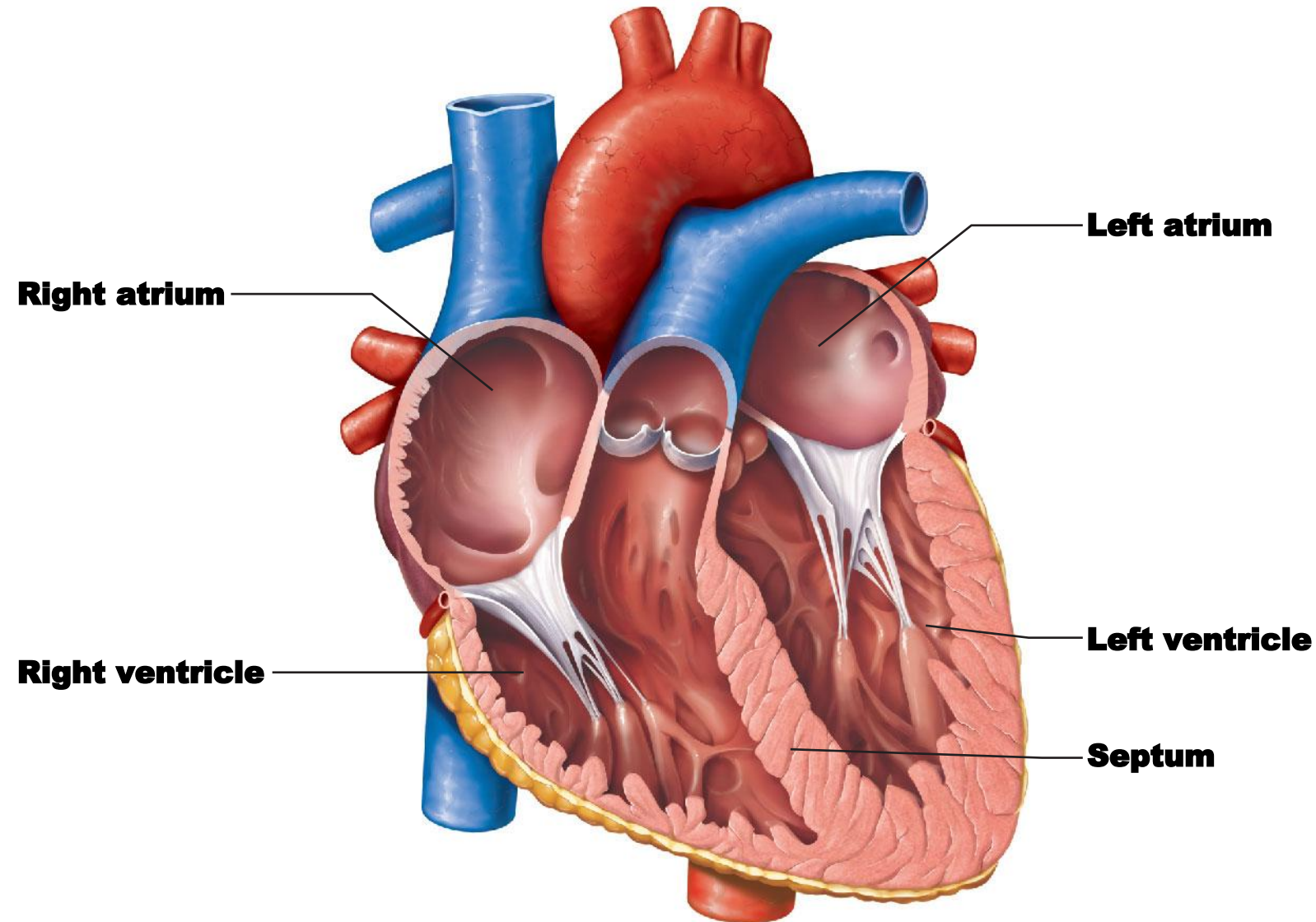
- Four chambers of the heart
 - Atria
 - ✓ **Receiving** chambers
 - ✓ **Assist with filling the ventricles**
 - ✓ Blood enters under **low pressure**
 - Ventricles
 - ✓ **Discharging** chambers
 - ✓ **Thick-walled pumps of the heart**
 - ✓ During contraction, **blood is propelled into circulation**

Label the septum, right atrium, left atrium, right ventricle, and left ventricle



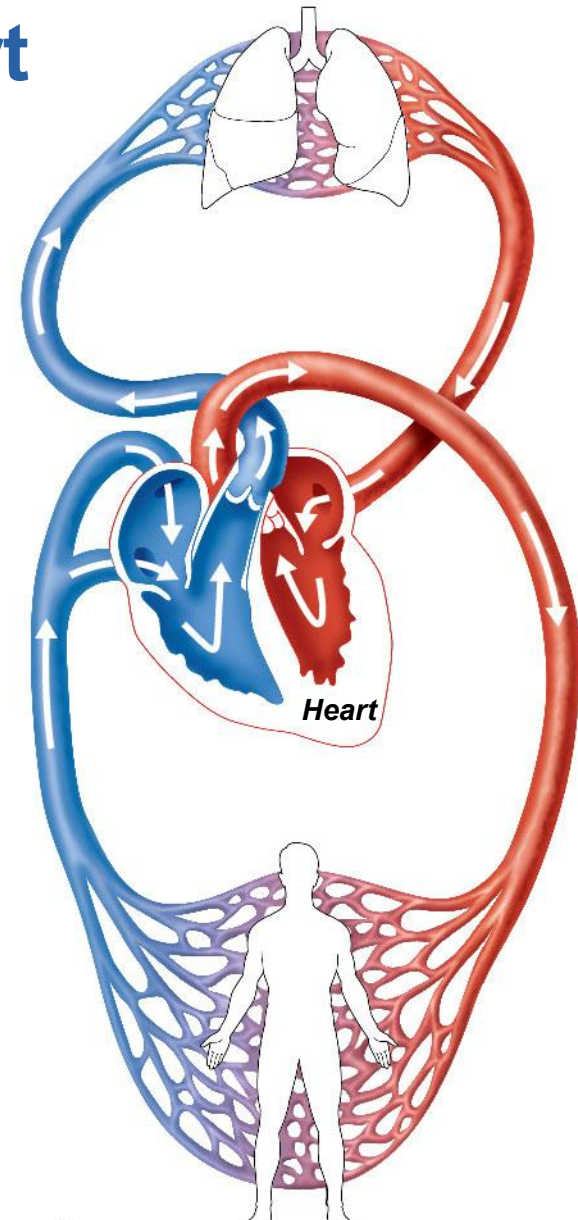
Students, draw anywhere on this slide!

Label the septum, right atrium, left atrium, right ventricle, and left ventricle

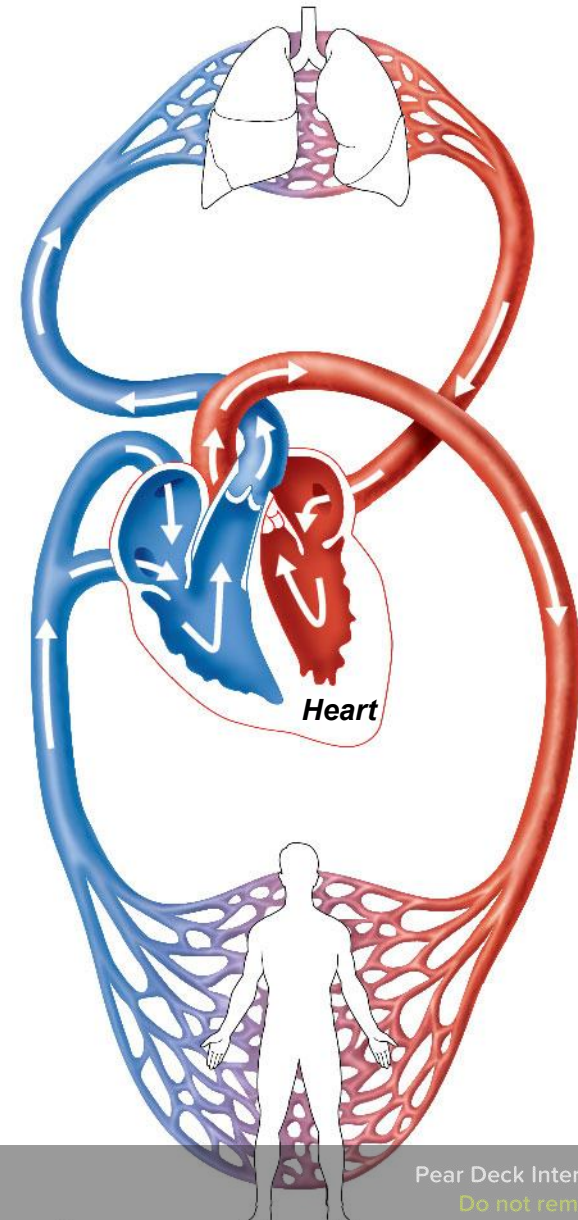


Internal Anatomy of the Heart

- Heart functions as a **double pump**
 - Right side works as the **pulmonary circuit pump**
 - Left side works as the **systemic circuit pump**
- **Blood vessels** carry blood away from or toward the heart
 - **Arteries** carry **blood away** from the heart
 - **Veins** carry **blood toward** the heart

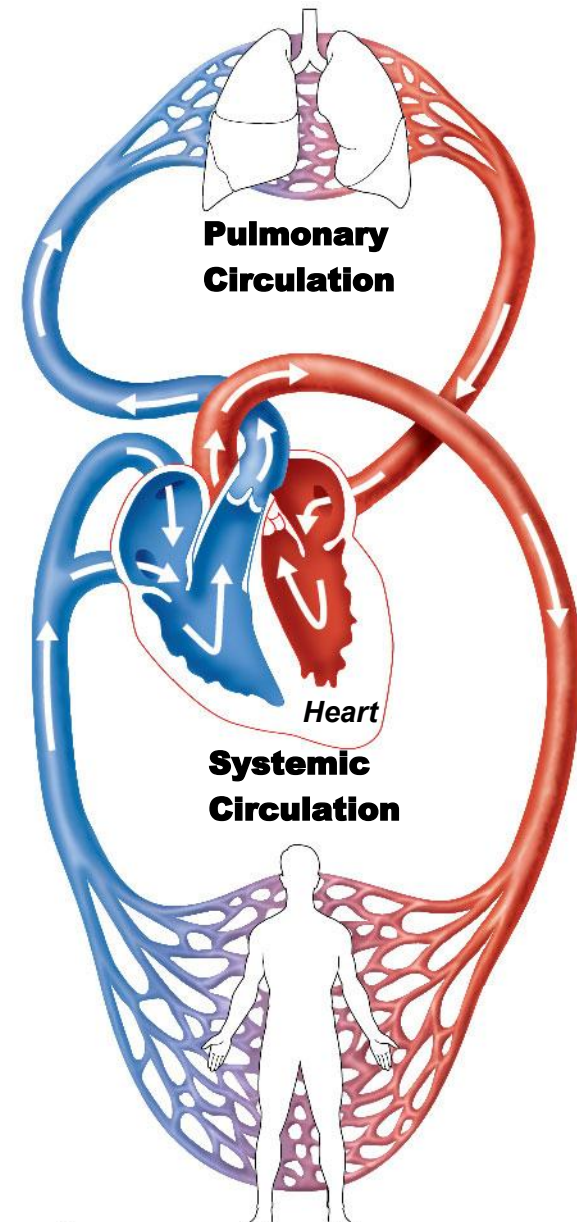


Label the Pulmonary Circulation and Systemic Circulation

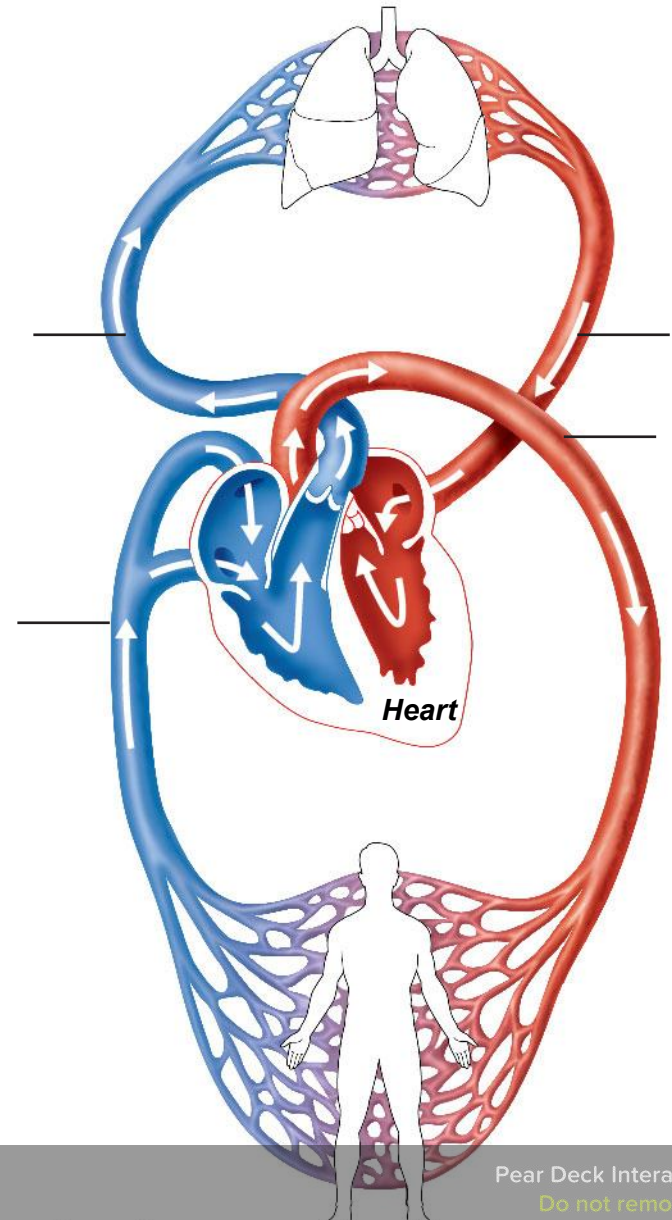


Students, draw anywhere on this slide!

Pulmonary Circulation and Systemic Circulation

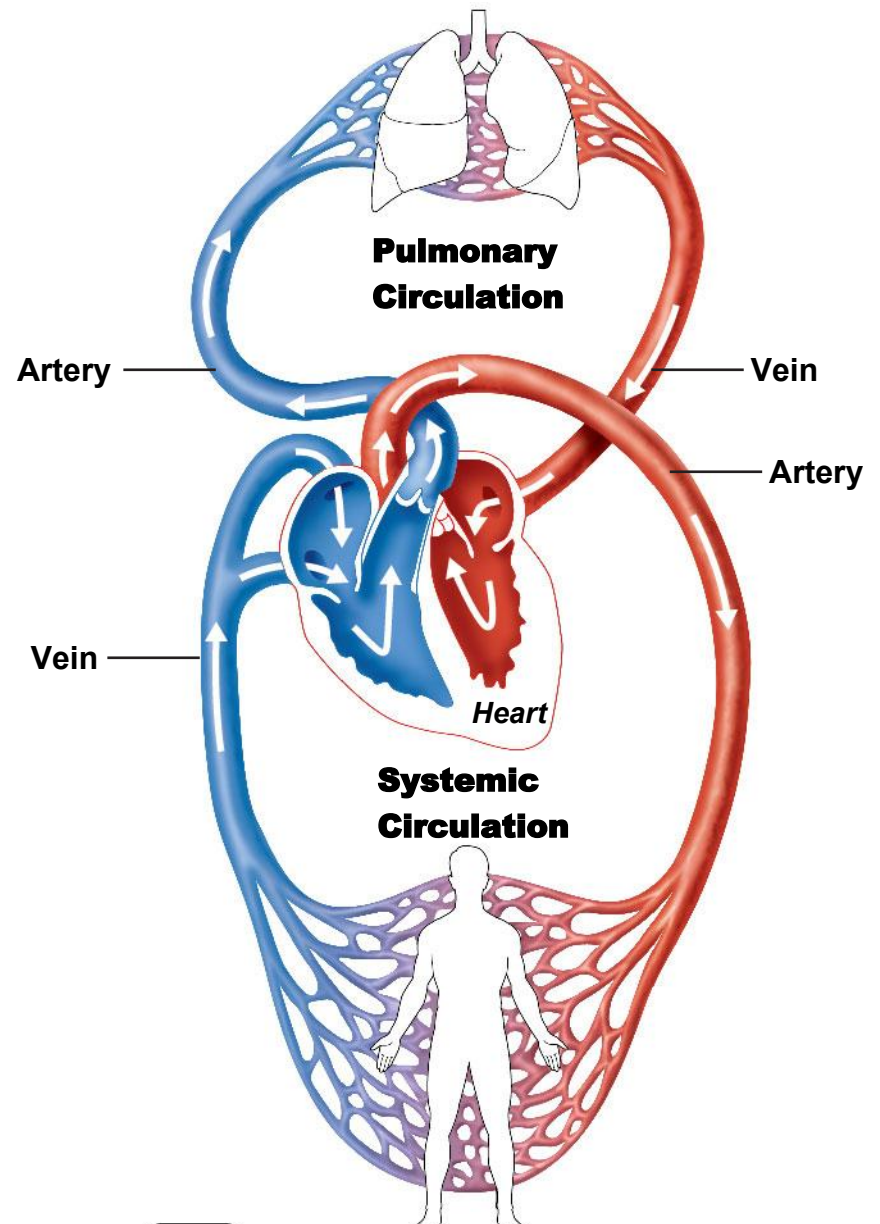


Label the leader lines as either ARTERY or VEIN



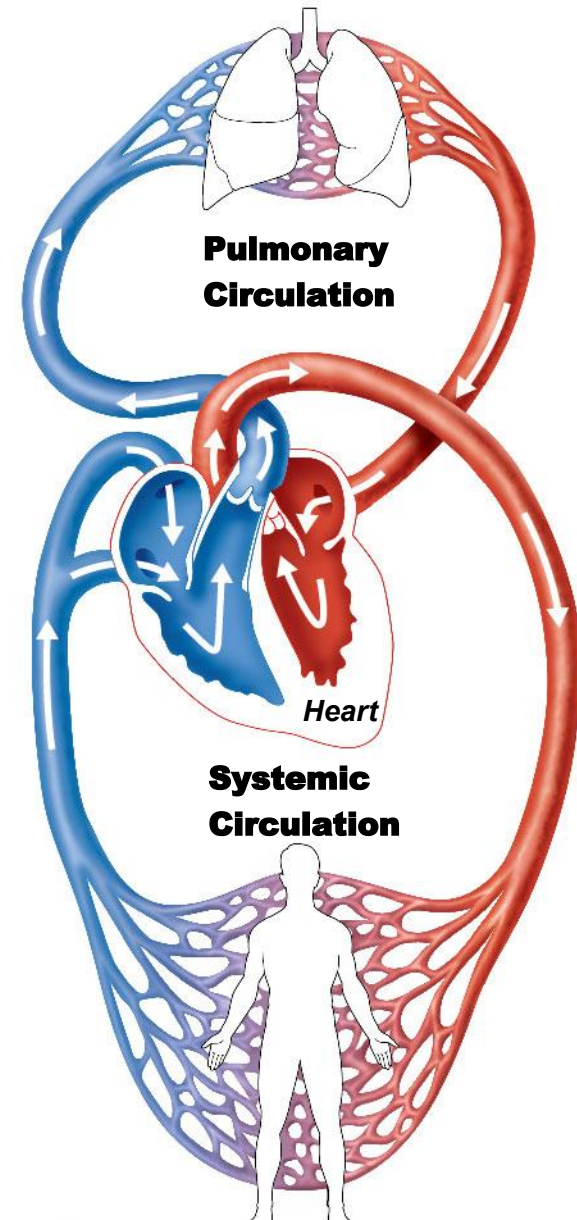
Students, draw anywhere on this slide!

Arteries and Veins

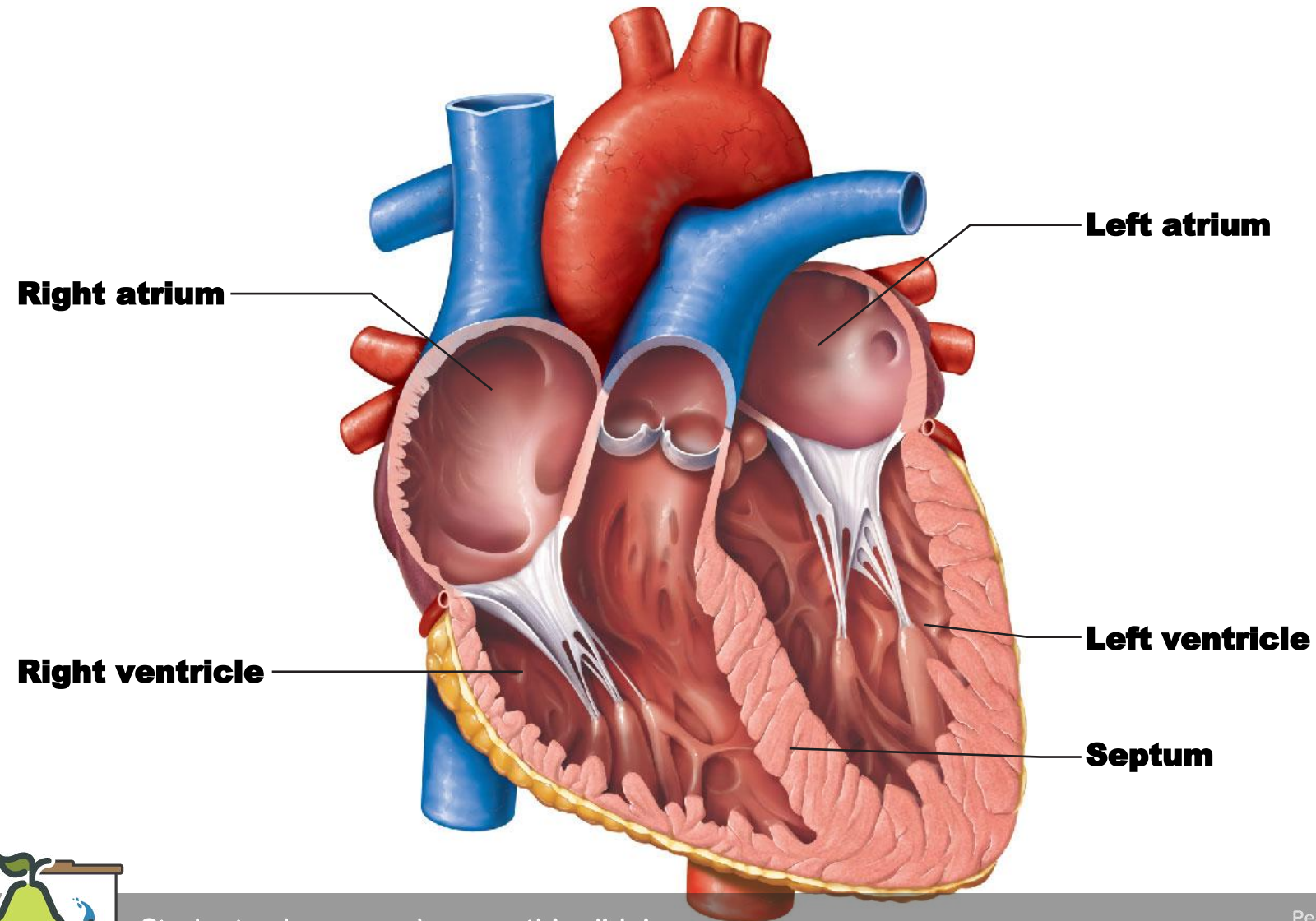


Pulmonary and Systemic Circulation

- Pulmonary circulation
 - **Oxygen-poor blood** is pumped out of the **right ventricle** through the **pulmonary arteries** to the **lungs**
- Oxygen-poor blood is colored blue in diagrams

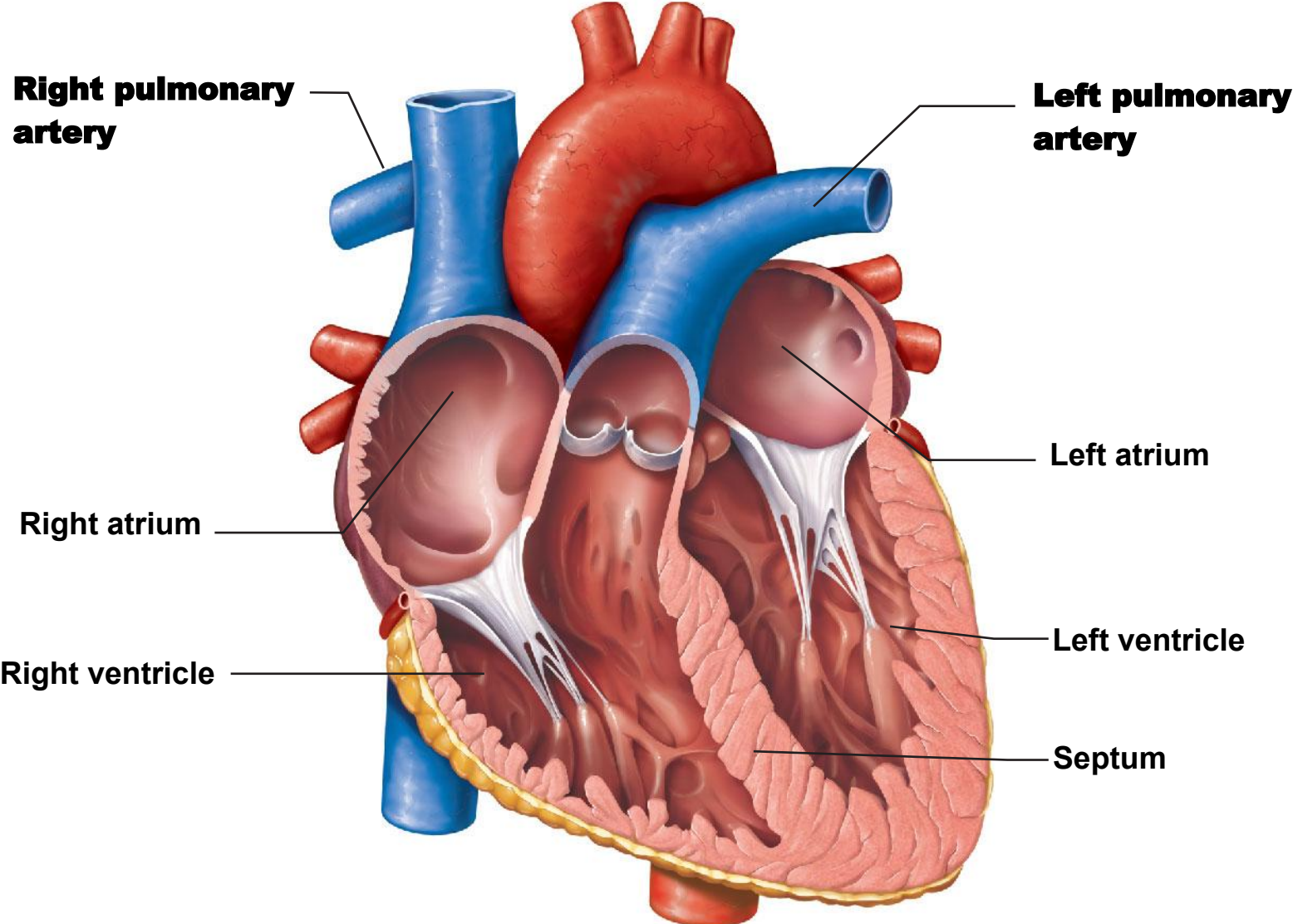


Label the pulmonary arteries



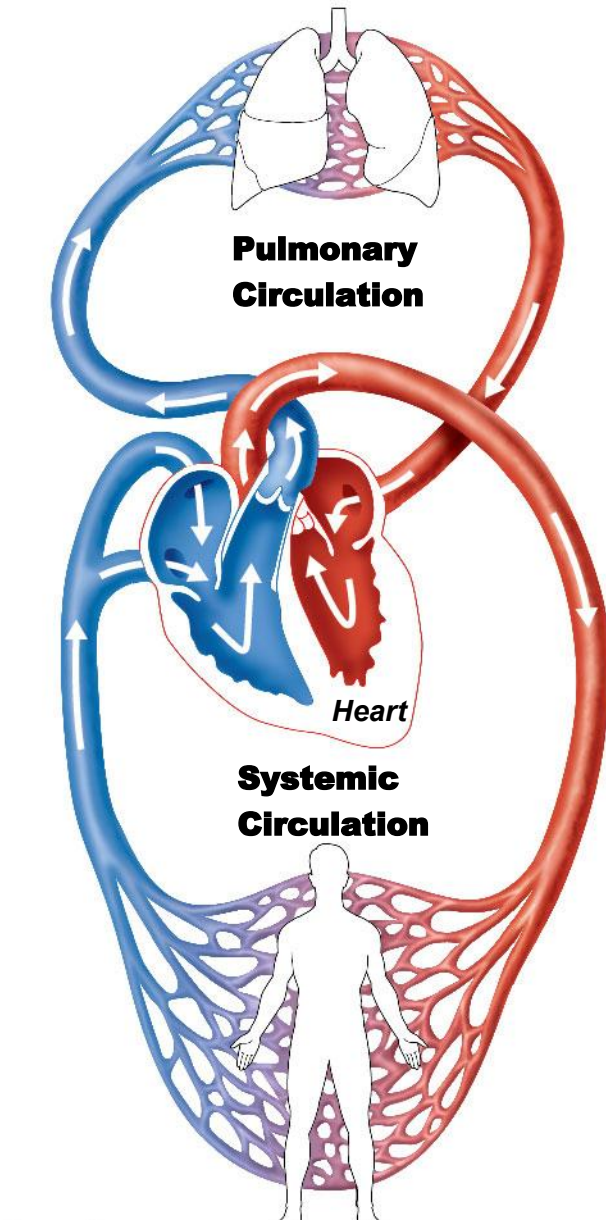
Students, draw anywhere on this slide!

Pulmonary arteries and pulmonary veins

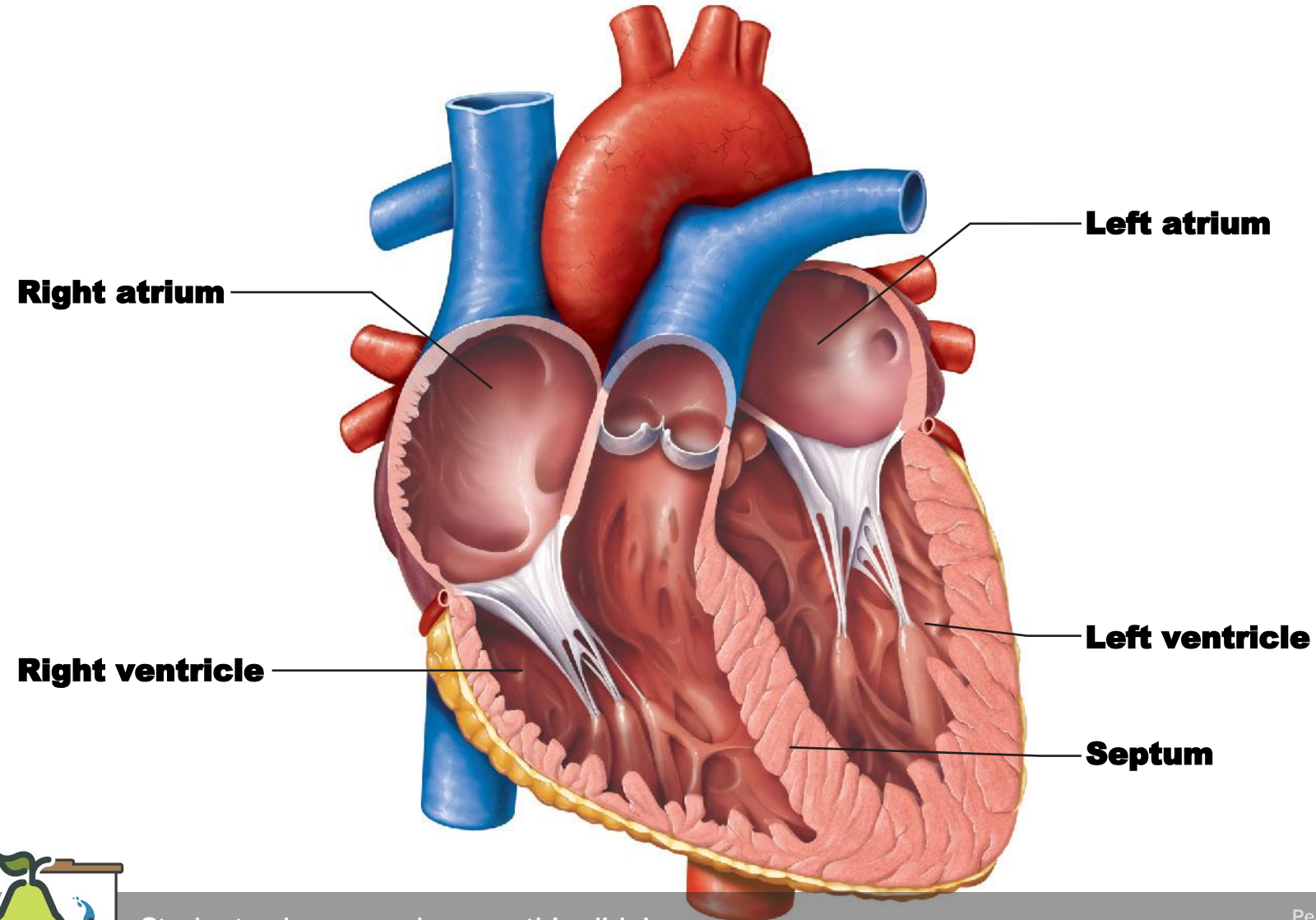


Pulmonary and Systemic Circulation

- Pulmonary circulation
 - **Oxygen-rich blood** returns to the **left atrium** of the heart from the **lungs** via **pulmonary veins**
- Oxygen-rich blood is colored red in diagrams

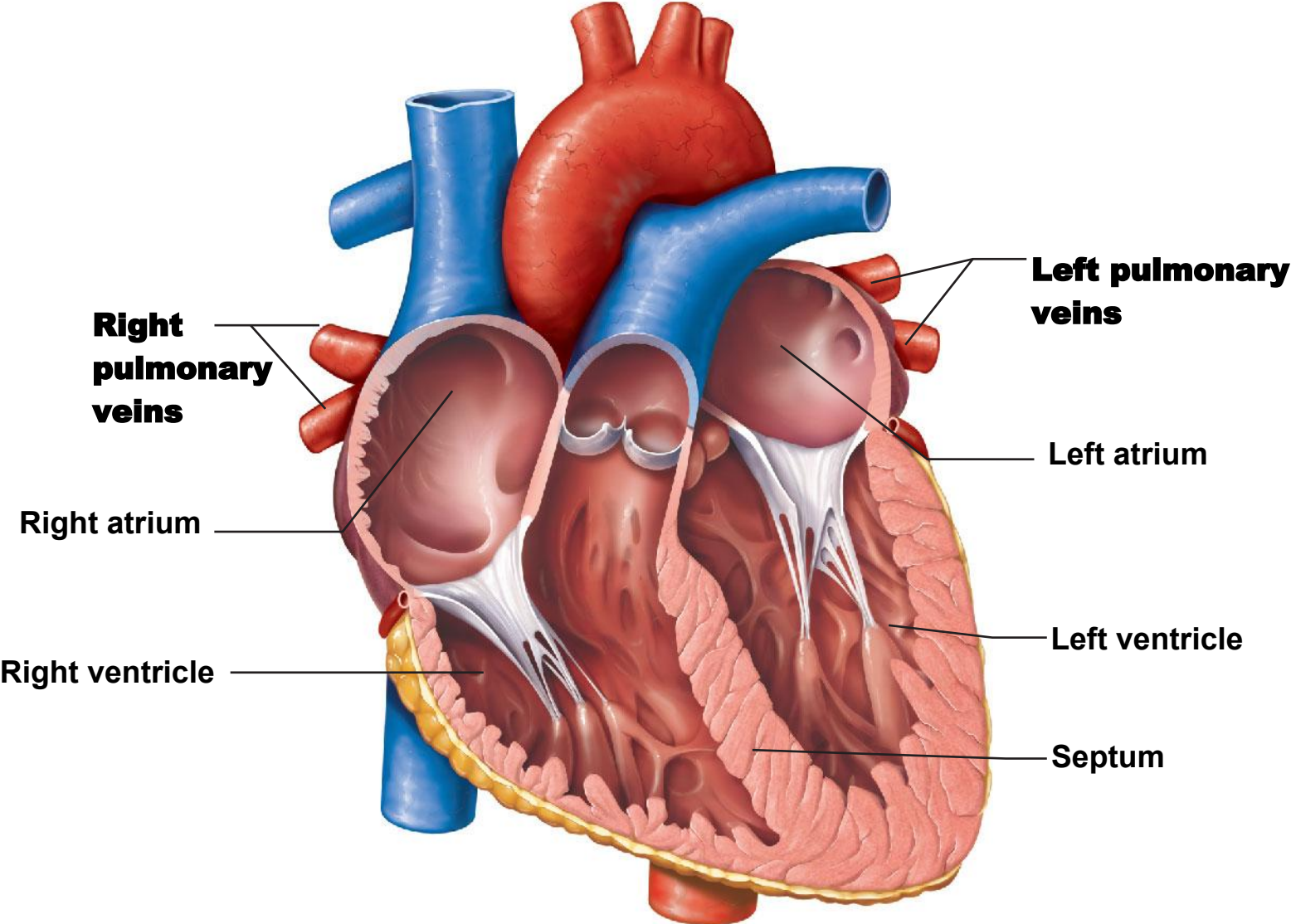


Label the pulmonary veins



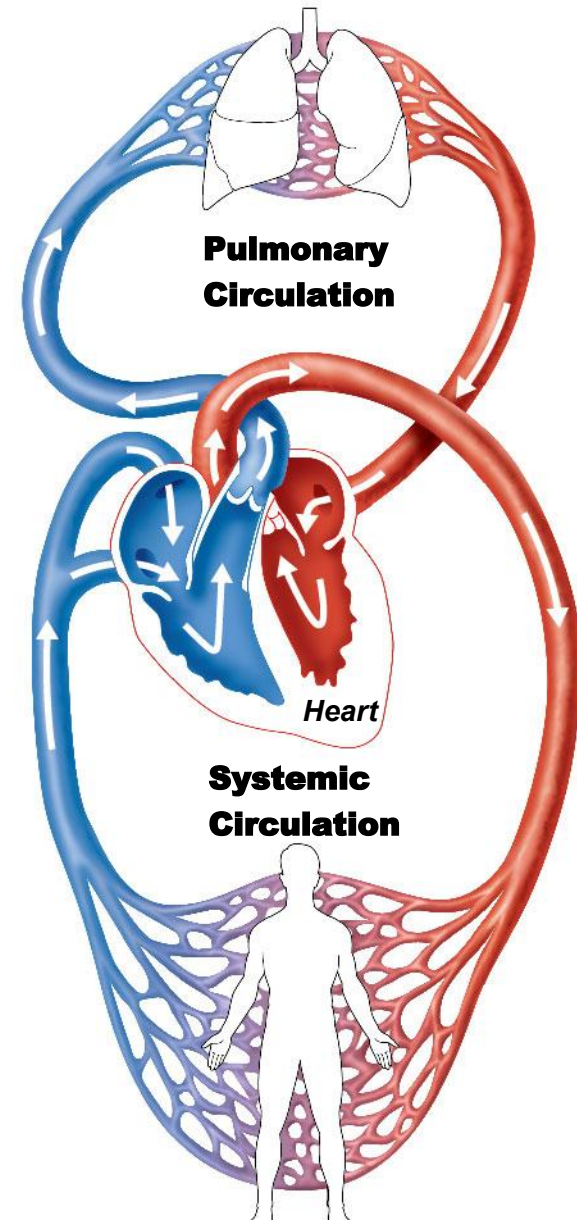
Students, draw anywhere on this slide!

Pulmonary veins

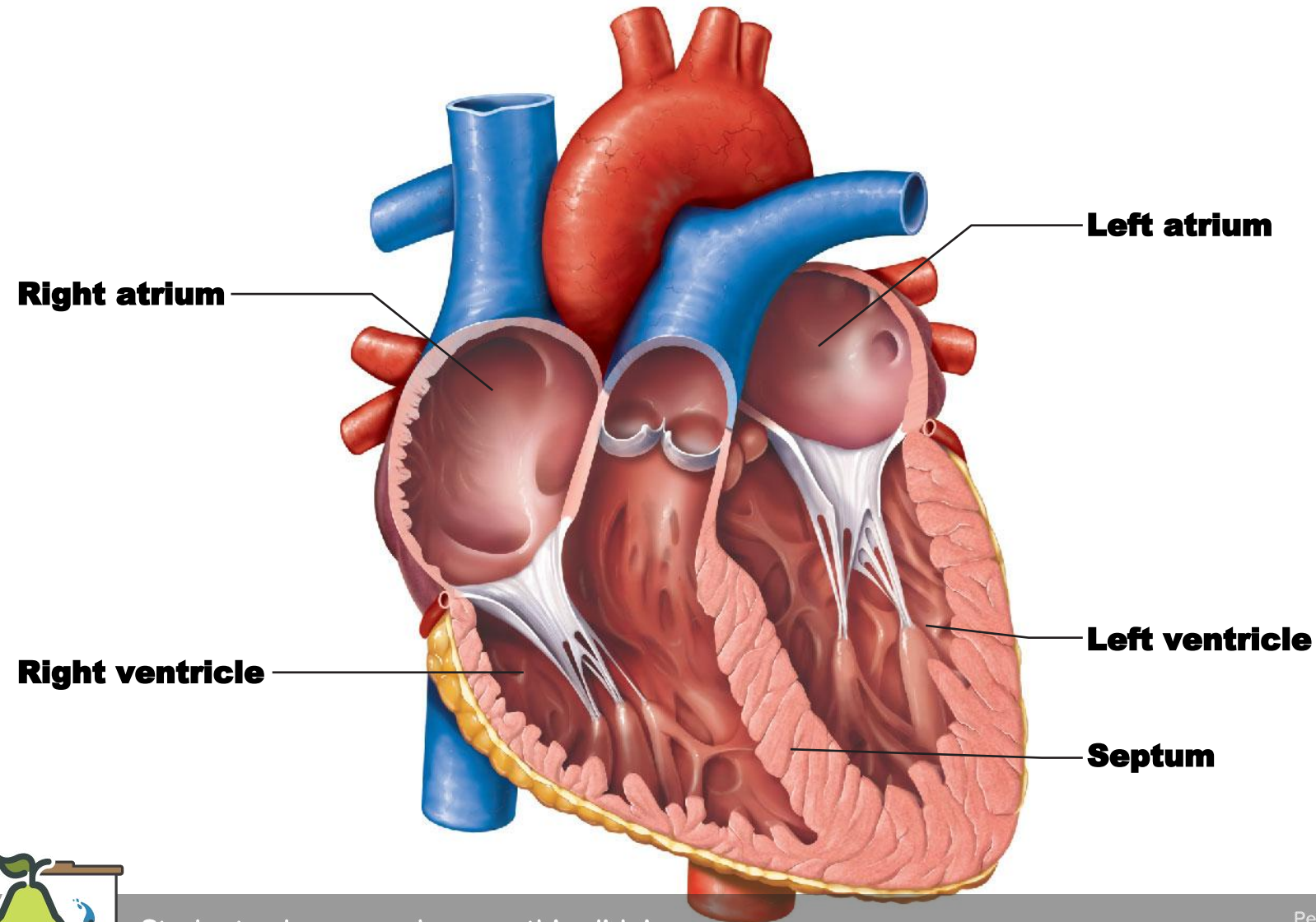


Pulmonary and Systemic Circulation

- Systemic circulation
 - **Oxygen-rich blood** is pumped out of the **left ventricle** through the **aorta** to **all body tissues**
 - **Oxygen-poor blood** returns to the **right atrium** from the **body tissues** via the **superior or inferior vena cava**

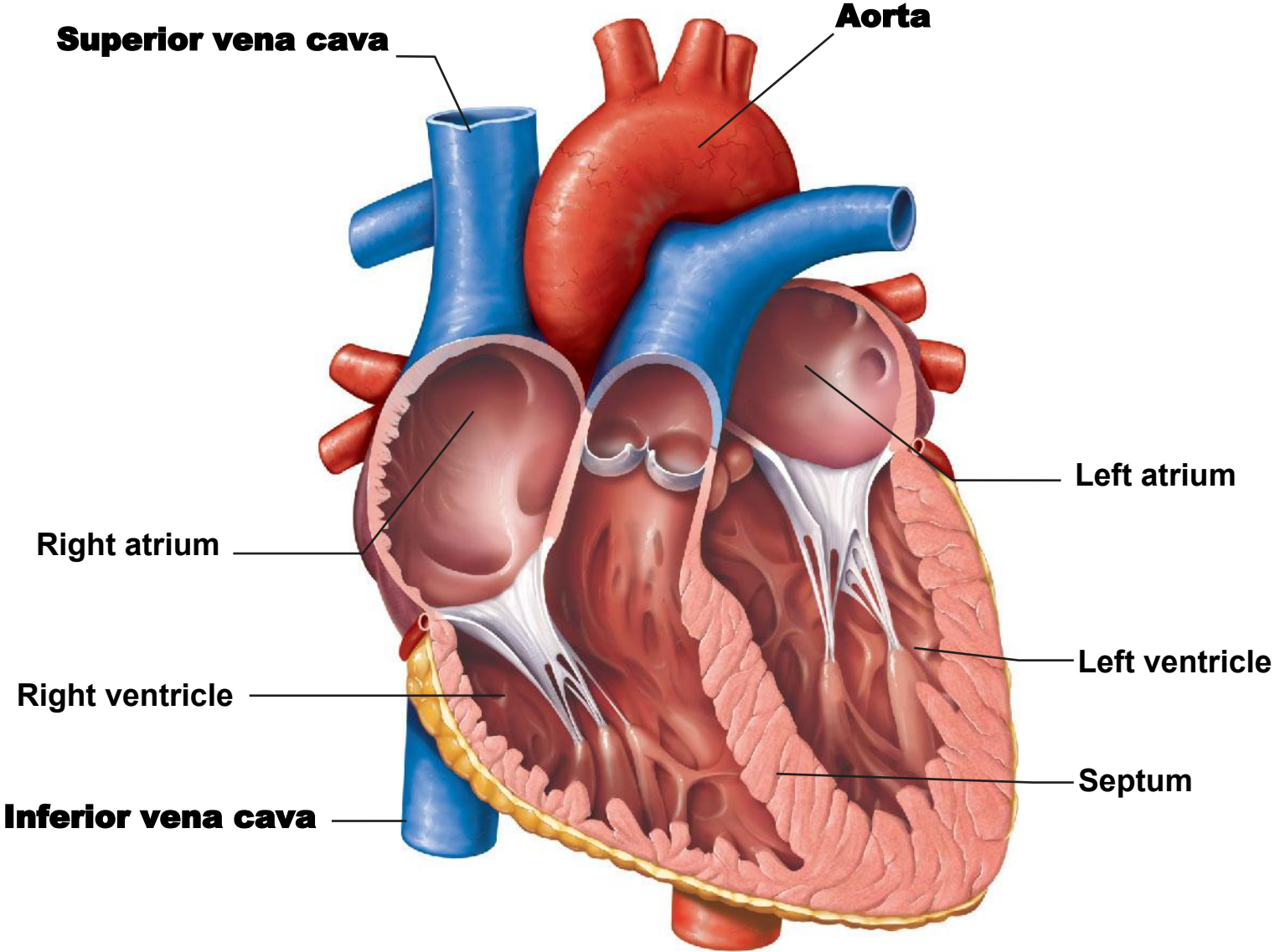


Label the aorta and superior and inferior vena cava



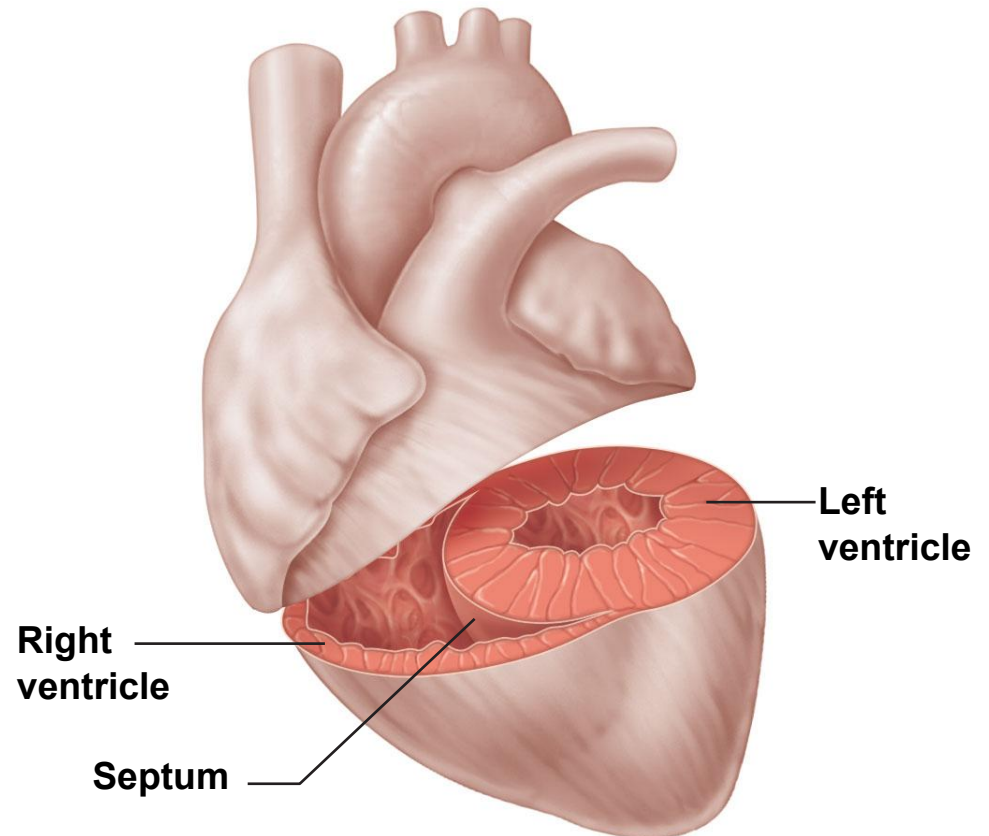
Students, draw anywhere on this slide!

Pulmonary arteries and pulmonary veins



Pulmonary and Systemic Circulation

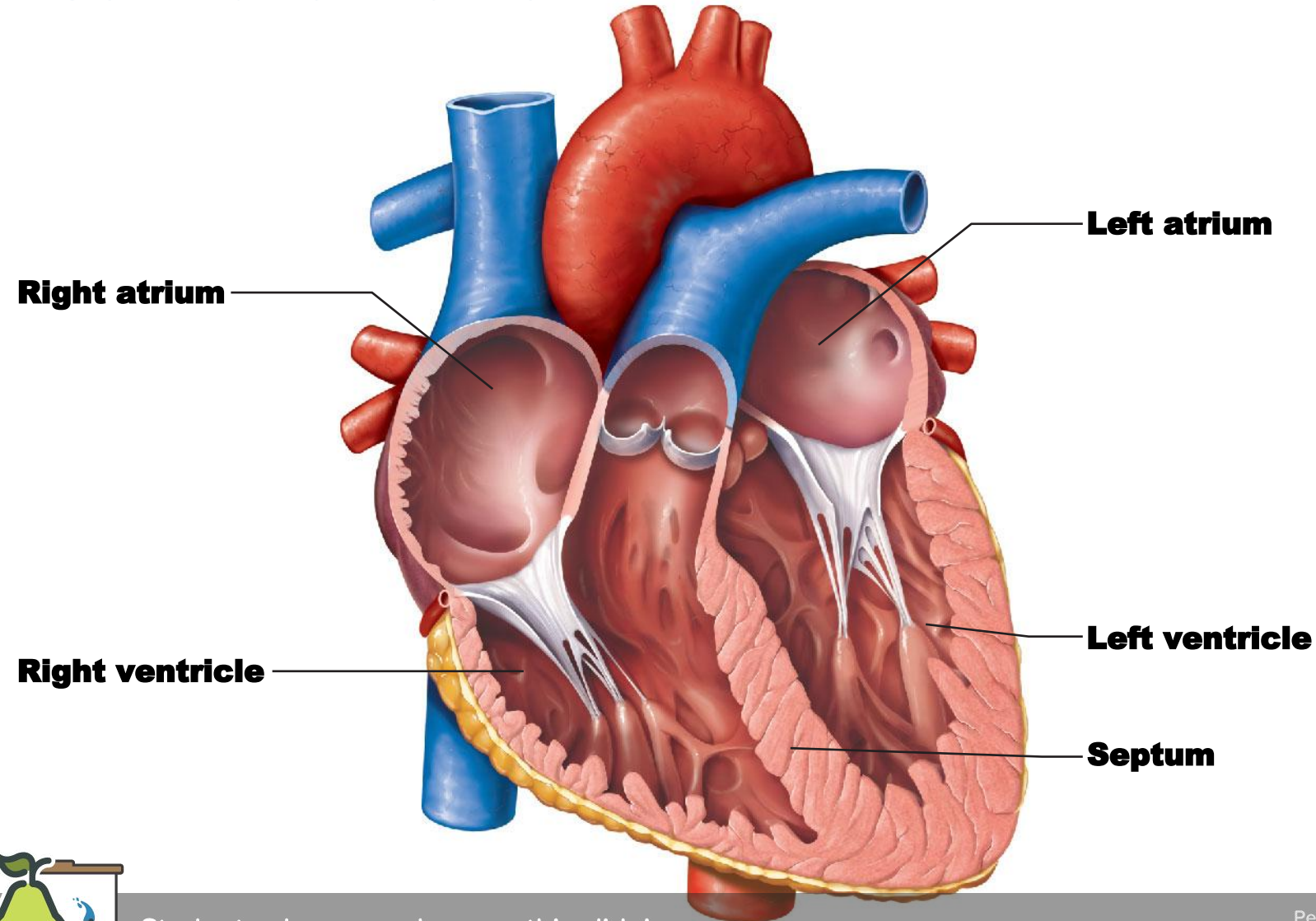
- **Left ventricle** has **thicker walls** because it pumps blood to the body through the **systemic circulation** (more distance to travel)



Heart Valves

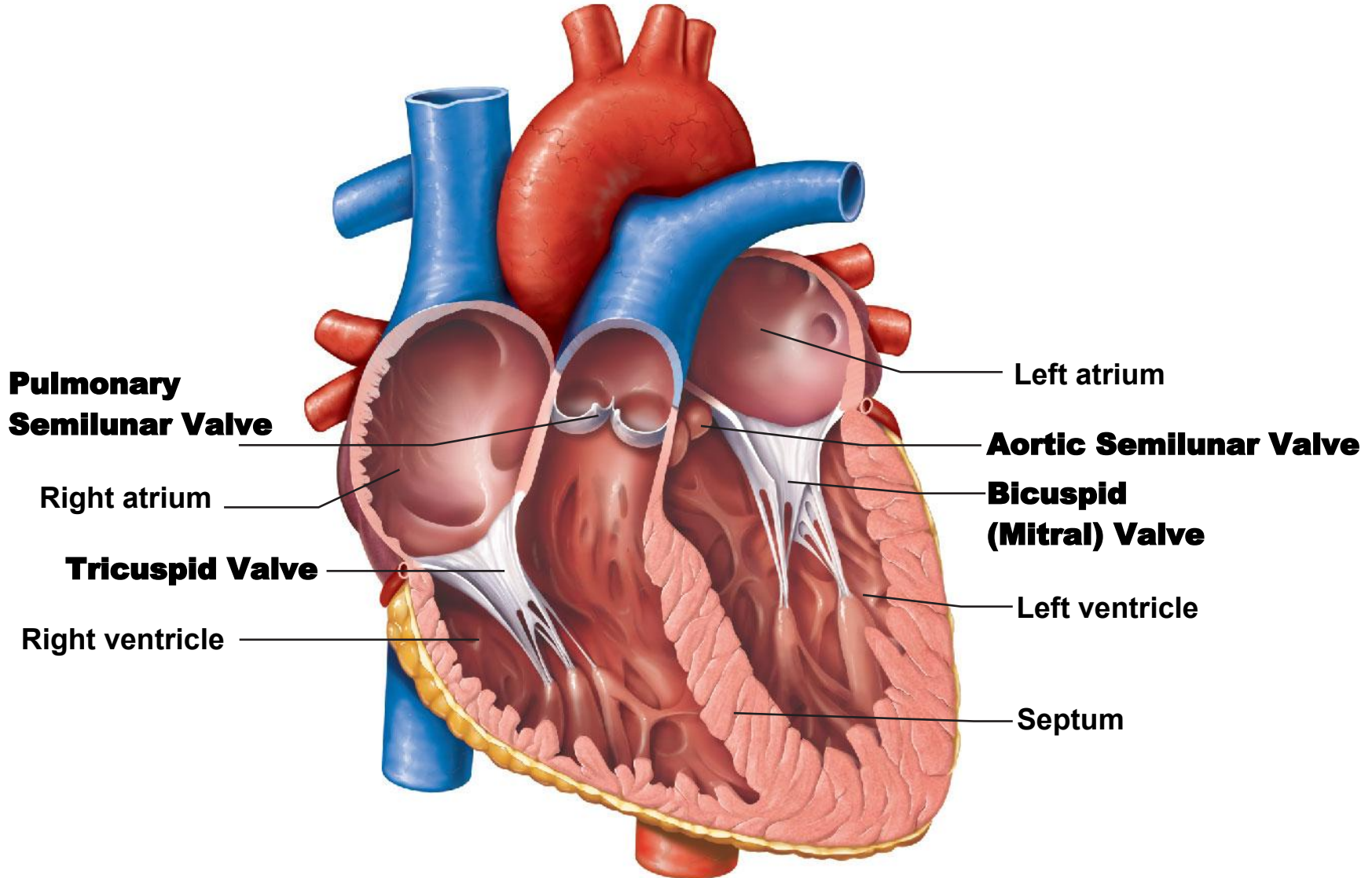
- Heart valves allow blood to flow in **only one direction**, to **prevent backflow**
 - **Atrioventricular (AV) valves**
 - ✓ Between **atria and ventricles**
 - ✓ Left AV valve
 - **Bicuspid (mitral) valve**
 - ✓ Right AV valve
 - **Tricuspid valve**
 - **Semilunar valves**
 - ✓ Between **ventricles and arteries**
 - ✓ **Pulmonary semilunar valve**
 - ✓ **Aortic semilunar valve**

Label the bicuspid (mitral) valve, tricuspid valve, pulmonary semilunar valve, and aortic semilunar valve



Students, draw anywhere on this slide!

Bicuspid (mitral) valve, Tricuspid valve, Pulmonary semilunar valve, and Aortic semilunar valve



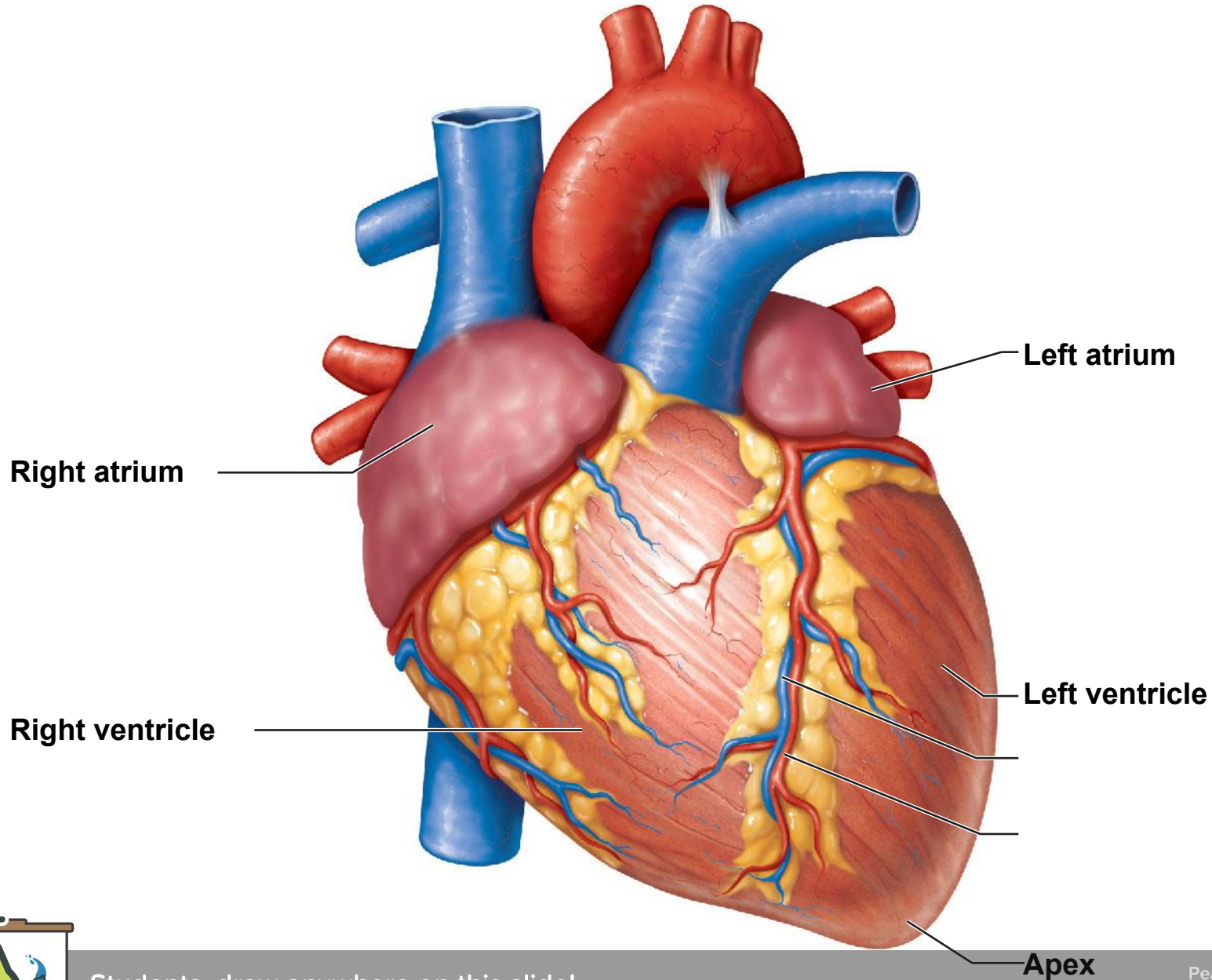
Heart Valves

- AV valves
 - Anchored in place by **chordae tendineae** to the walls of the ventricles
 - Open during **heart relaxation**, when blood passively fills the chambers
 - Closed during **ventricular contraction**
- Semilunar valves
 - Closed during **heart relaxation**
 - Open during **ventricular contraction**
- Valves open and close in response to **pressure changes** in the heart

External Anatomy

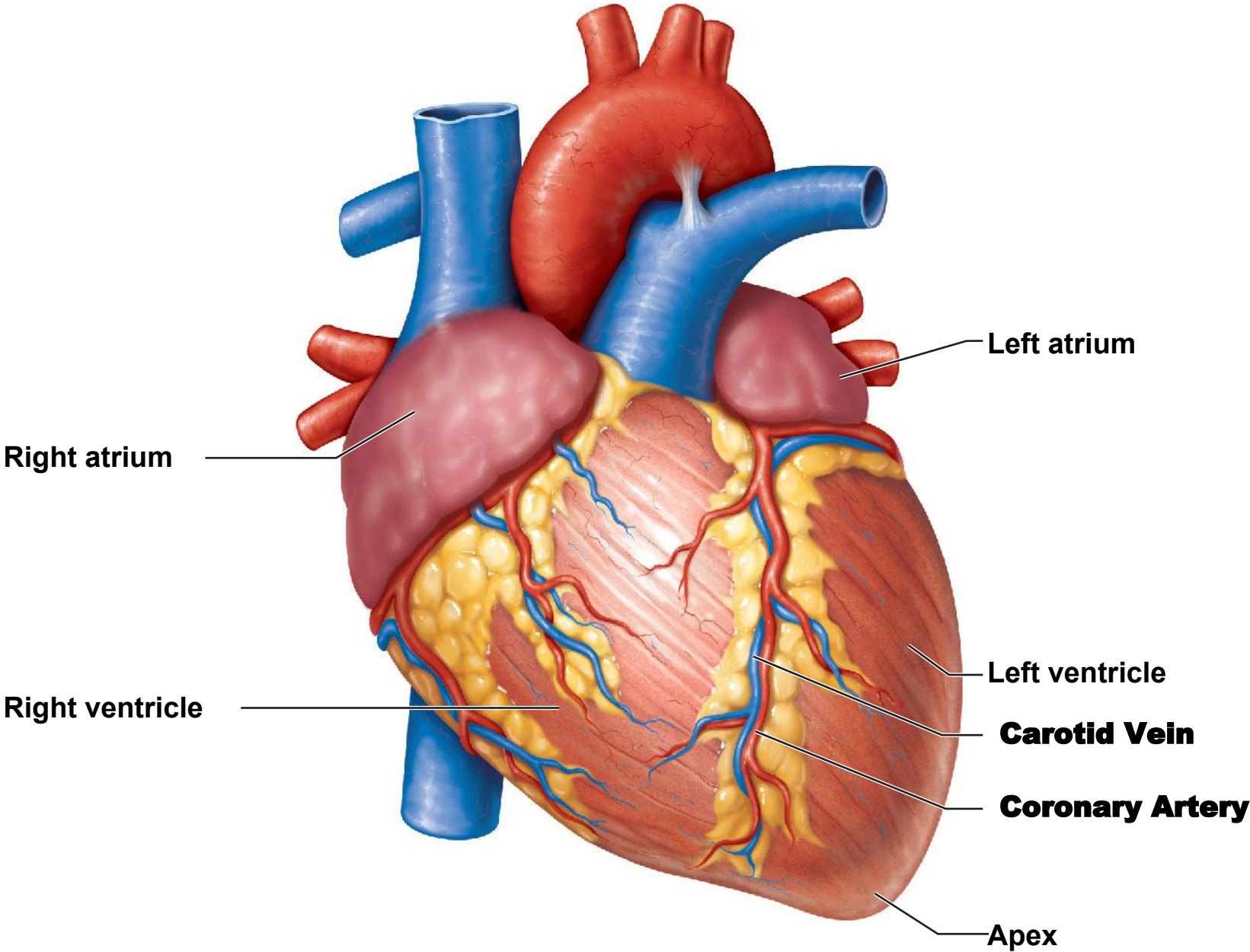
- Blood in the heart chambers does **NOT** nourish the **myocardium**
- The heart has its own nourishing circulatory system consisting of:
 - **Coronary arteries**
 - Branch from the aorta to supply the heart muscle with oxygenated blood
 - **Cardiac veins**
 - Drain the myocardium of blood
 - **Coronary sinus**
 - A large vein on the posterior of the heart that receives blood from cardiac veins
- Blood empties into the **right atrium** via the **coronary sinus**

Label the coronary artery and cardiac vein

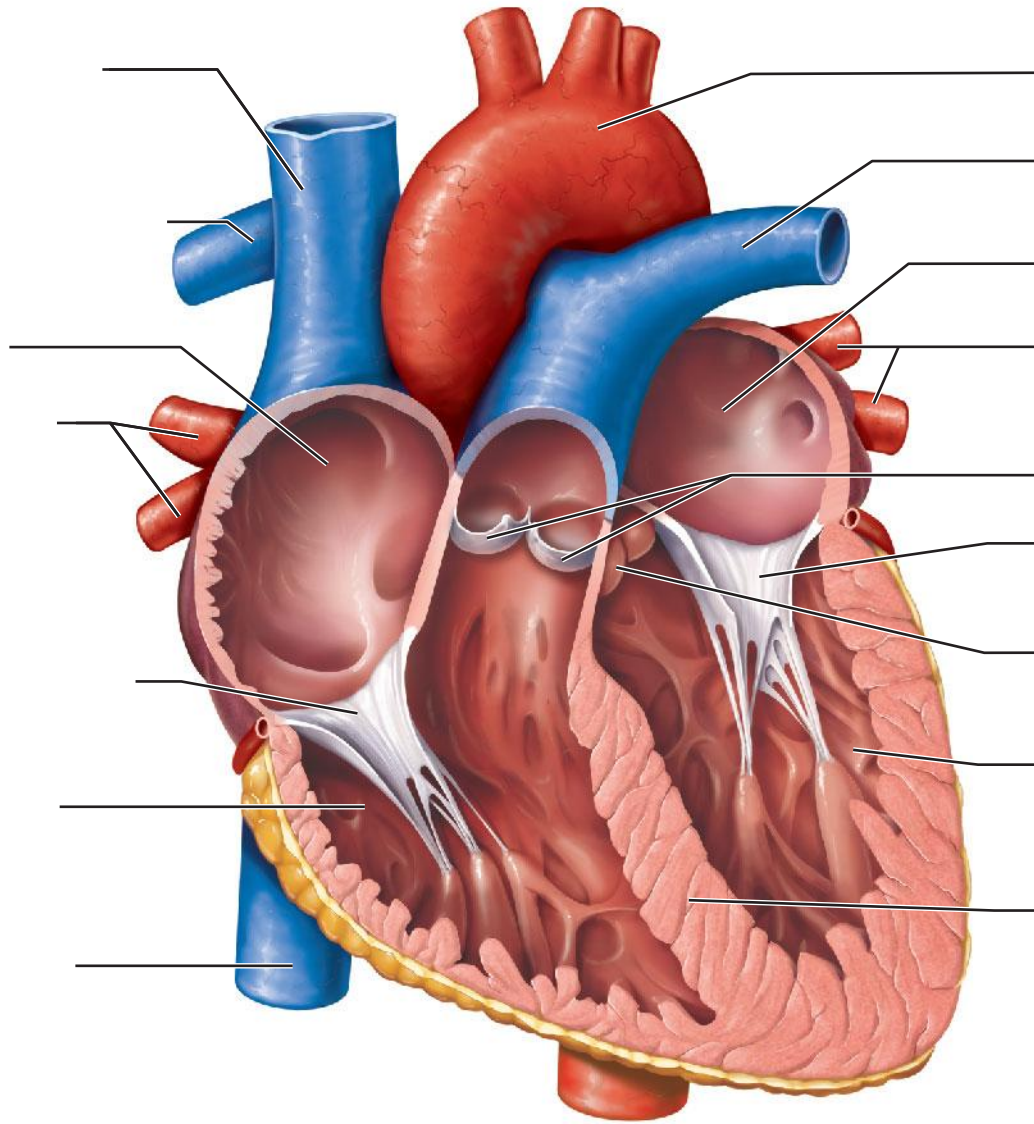


Students, draw anywhere on this slide!

Coronary artery and Cardiac vein



Exit Slip: Identify the heart's structures



Exit Slip: Identify the heart's structures

