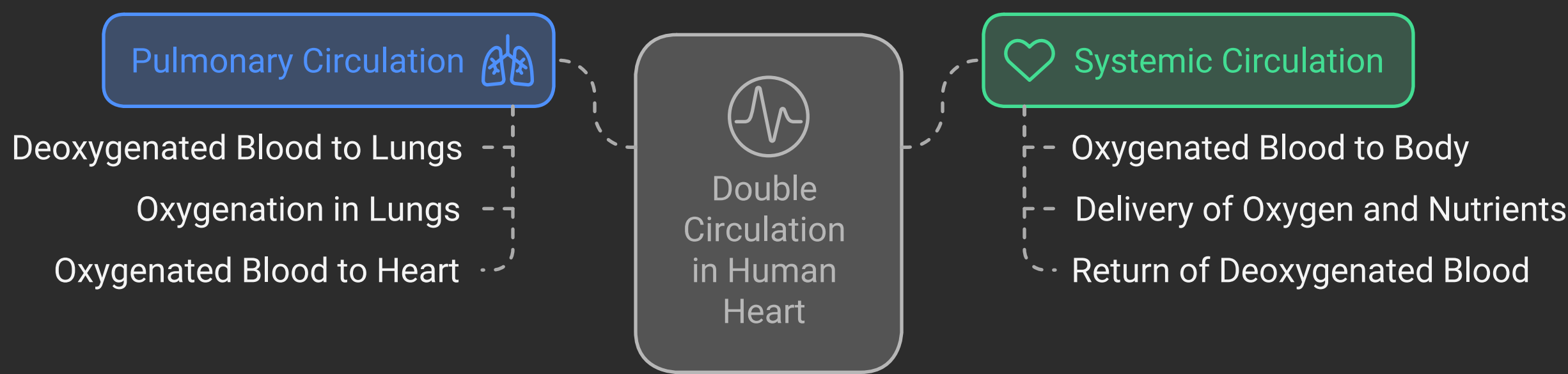


# Double Circulation-NEET

By Asfak || Persue Classes

Double circulation in the human heart is a system where blood flows through the heart twice in one complete cycle, ensuring the efficient separation and delivery of oxygenated [oxygen-rich] and deoxygenated [oxygen-poor] blood to different parts of the body. This concept is essential for efficient oxygenation of the blood and distribution to all body tissues, which is crucial for survival.

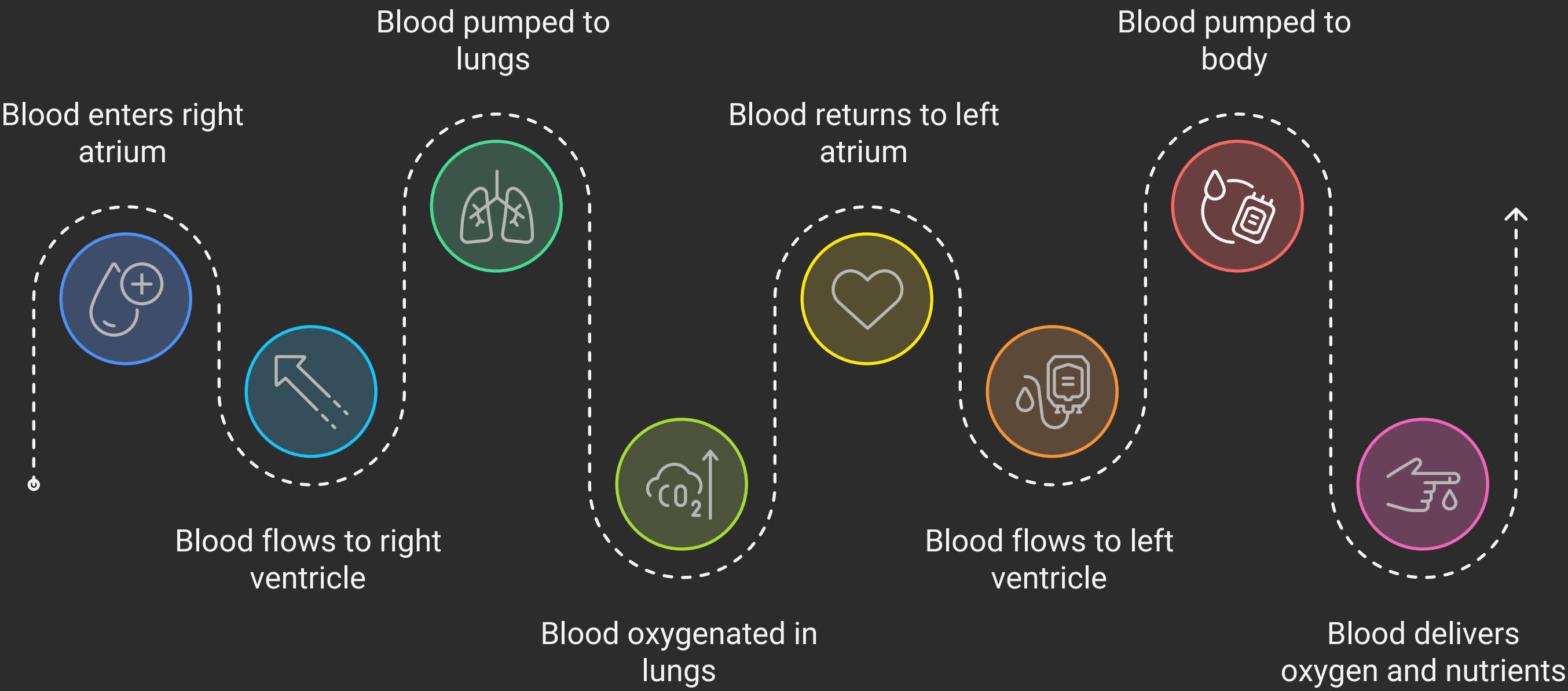
In double circulation, there are two main pathways:



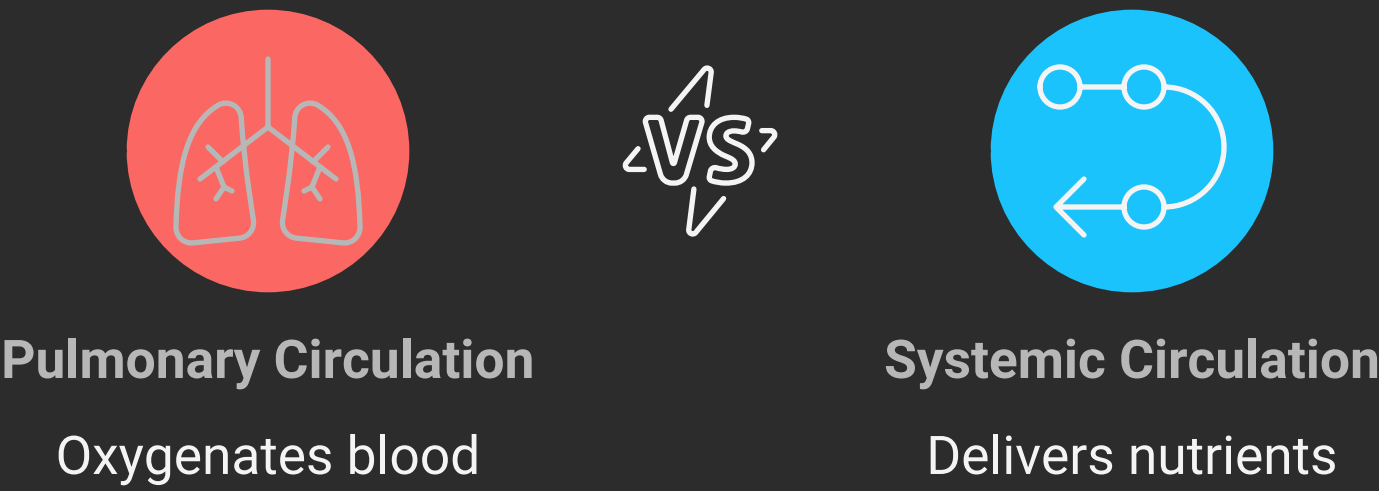
1. Pulmonary Circulation [Heart-Lungs-Heart] This pathway carries deoxygenated blood from the heart to the lungs. In the lungs, the blood picks up oxygen and releases carbon dioxide. Oxygenated blood then returns to the heart.

2. Systemic Circulation [Heart-Body-Heart] This pathway carries oxygenated blood from the heart to the rest of the body. The blood delivers oxygen and nutrients to body tissues and picks up carbon dioxide and waste products. Deoxygenated blood then returns to the heart. How It Works: Blood enters the right atrium of the heart from the body, carrying carbon dioxide. This deoxygenated blood flows into the right ventricle and is pumped to the lungs via the pulmonary artery [pulmonary circulation]. In the lungs, blood gets oxygenated and returns to the left atrium of the heart. From the left atrium, the oxygen-rich blood flows into the left ventricle, which pumps it through the aorta to the entire body [systemic circulation].

Double Circulation Process



Which circulation to prioritize?



1. Key Points:Right side of the heart handles deoxygenated blood.Left side of the heart handles oxygenated blood.This separation ensures that oxygen-rich blood and oxygen-poor blood do not mix, making the heart efficient in delivering oxygen to the body.This system is vital because it allows for a high-pressure flow of oxygen-rich blood, supporting the high metabolic needs of our body’s tissues. Double circulation is an advanced feature found in mammals and birds, which have high-energy requirements.

