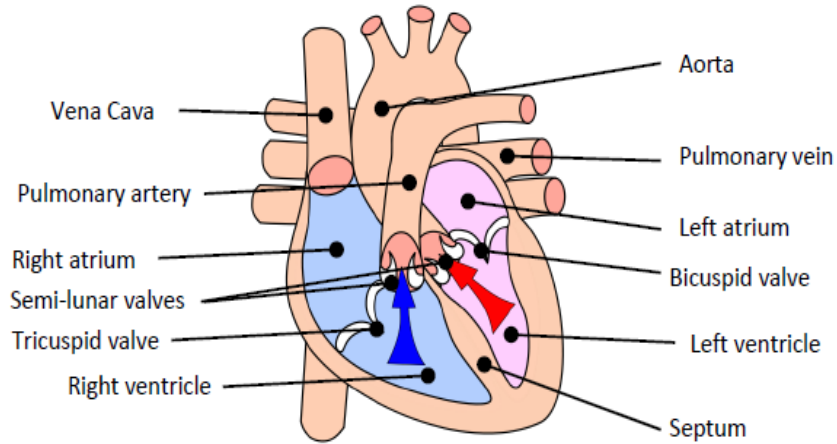


GCSE Physical Education – The Cardiovascular system

Structure of the cardiovascular system



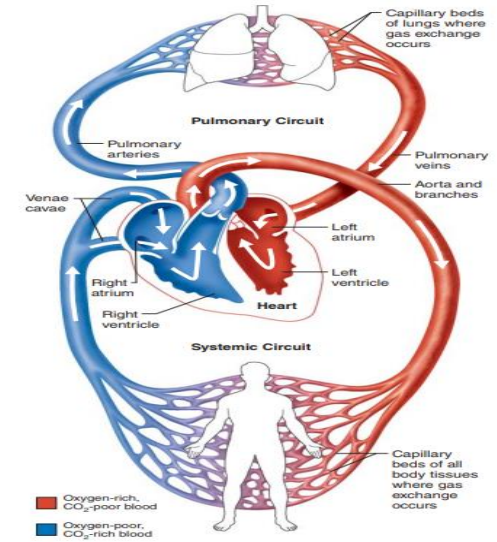
Deoxygenated blood = **BLUE** (Right side)
 Oxygenated = **RED** (Left side)

Double Circulatory system


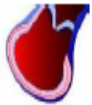

The heart works as a **double circulatory system**. This means two pumps that work at the same time to pump blood in two different directions.

The right-hand side of the heart collects deoxygenated blood from the body and pumps it to the lungs (to collect more oxygen). This is called pulmonary circulation.

The left-hand side of the heart collects oxygenated blood from the heart and pumps it round the body. This is called systemic circulation.



Different types of blood vessels

Arteries	Veins	Capillaries
<ol style="list-style-type: none"> 1. Away from the heart 2. Oxygenated blood (except pulmonary artery) 3. Thick/elastic walls 4. High pressure 5. Small lumen 	<ol style="list-style-type: none"> 1. Back to the heart 2. Deoxygenated blood (except pulmonary vein) 3. Thin walls + larger lumen 4. Lower pressure 5. Valves 	<ol style="list-style-type: none"> 1. In the tissue 2. Site of gaseous exchange 3. Very thin walls 

Pathway of blood through the heart

pulmonary circulation	systemic circulation
<ul style="list-style-type: none"> • deoxygenated blood from right ventricle to lungs • pulmonary artery carries deoxygenated blood to lungs • oxygenated blood back to left atrium • pulmonary vein carries oxygenated blood back to left atrium 	<ul style="list-style-type: none"> • oxygenated blood from left ventricle to body / muscles • Aorta carries oxygenated blood to body tissues / muscles • deoxygenated blood back to right atrium • vena cava carries deoxygenated blood back to right atrium

Role of Red blood cells

- transports oxygen to the working muscles
- transport carbon dioxide (to the lungs)



Valves in the heart

Function of valves: To prevent backflow of blood

Tricuspid valve	Between the right atrium and right ventricle
Bicuspid valve	Between the left atrium and left ventricle
Aortic valve	Between the left ventricle and aorta
Pulmonary valve	Between the right ventricle and pulmonary artery
Semilunar valves	The collective term for the aortic and pulmonary valves

KEY DEFINITIONS

Heart rate	Stroke volume	Cardiac Output
The number of times your heart beats per minute	The volume of blood ejected by the left ventricle per beat	The volume of blood ejected by the left ventricle per minute