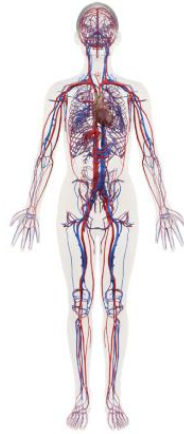


The circulatory system



The circulatory system is the system that moves blood around the body. It has three parts:

- the heart
- blood vessels
- blood



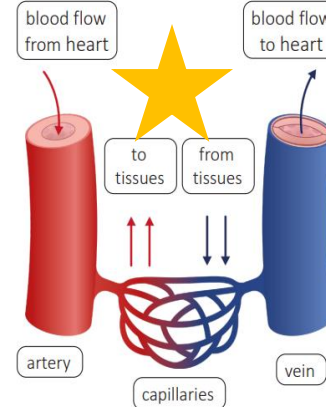
Blood

The main function of blood is to transport the things the body needs, such as oxygen, other nutrients, hormones, antibodies and heat, around the body. It also transports carbon dioxide and other waste products for excretion. Blood has four components: plasma, red blood cells, white blood cells and platelets.

Blood vessels

Structure of arteries

Arteries have thick walls and narrow tubes, called lumen, because the blood is under high pressure as it is pumped from the heart. The arteries are also tough and flexible to withstand this pressure.



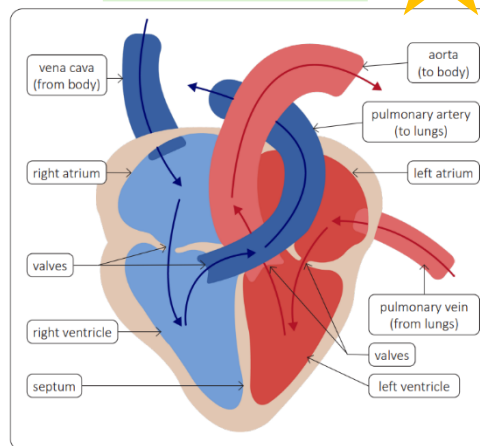
Structure of veins

Veins have thin, elastic walls and wide lumen. The walls do not need to be thick because the blood is not under high pressure. Veins contain valves that prevent the blood from flowing backwards.

Structure of capillaries

Capillaries are tiny and have very thin walls and narrow lumen so oxygen, other nutrients and waste products can move easily between the blood and the body's tissues.

The heart



The heart is a muscular organ that acts as a pump. It pumps blood around the body through the blood vessels. Deoxygenated blood enters the right atrium through the vena cava. It passes through a valve and into the right ventricle. From there, it is pumped through a valve into the pulmonary artery. The pulmonary artery carries the blood to the lungs, where it absorbs oxygen. The pulmonary veins carry the oxygenated blood back from the lungs to the left atrium. It passes through a valve to the left ventricle and is pumped out through a valve into the aorta. Then the blood travels to the rest of the body.

Vocabulary	Definition
Antibody	A protein in the blood produced by white blood cells to fight infection and other types of diseases.
Excretion	The process of expelling waste.
Hormone	One of many chemical messengers produced inside the body of an animal or plant that controls growth or other bodily processes.
Immune system	The bodily system that offers protection from infections and other diseases.
Oxygenated	Contains oxygen.
Respiration	A process where oxygen is absorbed by the body and carbon dioxide is excreted.
Valve	A structure in the body that prevents blood from flowing backwards.