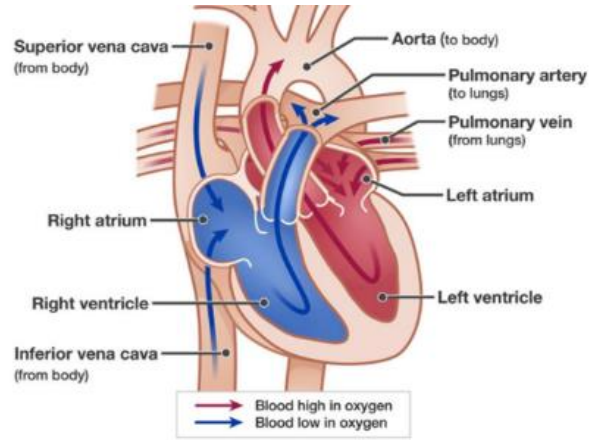




Humans including other Animals The Circulatory System

The Heart

The heart is an organ whose role is to pump blood around the body. In humans, the heart is part of a double circulatory system, which means that the blood passes through the heart twice on its journey around the body. The right side pumps blood to the lungs where gas exchange takes place. The blood is deoxygenated. The left side pumps oxygenated blood to the rest of the body.

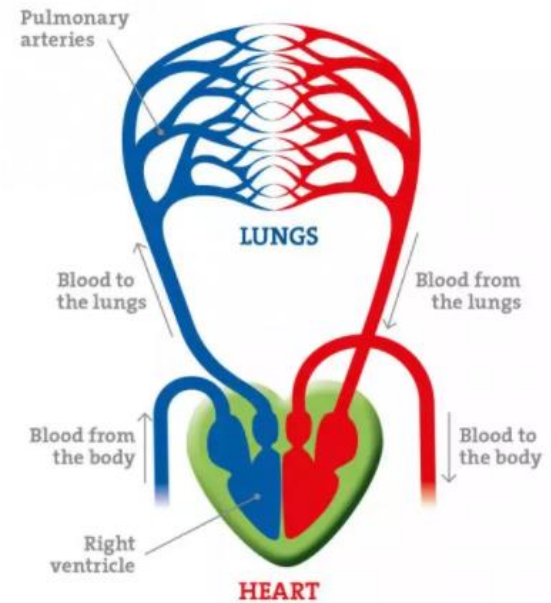


The Function of the Heart

1. Deoxygenated blood flows into the heart from the body through the veins
2. This blood is then pumped out to the lungs via the pulmonary artery
3. Whilst in the lungs the blood will become oxygenated
4. Blood returns to the heart through the pulmonary vein
5. The oxygenated blood is then pumped out of the heart through the aorta
6. The blood travels around the body delivering oxygen and nutrients to the organs

The Circulatory System

The system that circulates blood around the body.



Drugs, alcohol and smoking have negative effects on the body. A healthy diet involves eating the right nutrients in the right amounts

Key Vocabulary

Circulatory System	A network that carries blood around our bodies
Heart	A strong muscle in the chest protected by the ribs, that pumps blood around the body
Blood Vessels	The tubes that carry blood around the body
Veins	Mostly carries deoxygenated blood back to the heart.
Arteries	Mostly carries oxygenated blood from the heart around the body.
Capillaries	Microscopic blood vessels found in the muscles and lungs
Oxygenated Blood	Blood that is rich in oxygen
Deoxygenated Blood	Blood that contains very little oxygen
Exercise	Physical activity that requires effort and raises the heart rate.
Respiration	The action of breathing
Pulmonary	Related to the lungs and breathing

Blood Vessels

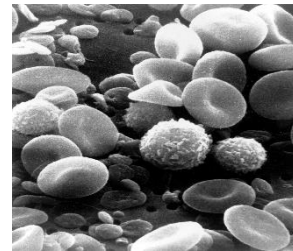
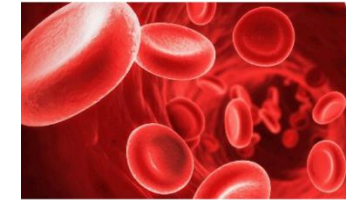
Artery - These carry blood at high pressure away from the heart. They have a thick elastic wall to allow them to stretch.

Vein - These carry blood at lower pressure back to the heart. They have a thinner wall and have valves to prevent backflow of blood.

Capillary - They connect the arteries and veins and where exchange takes place.

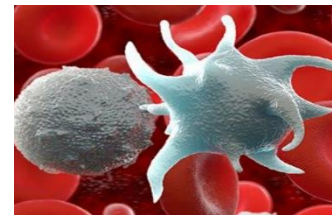
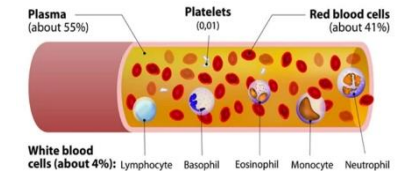
Components of Blood

Red blood cells are disc shaped and biconcave. They carry fresh oxygen through the body and remove carbon dioxide. Red blood cells make up about 40-45% of blood.



White blood cells are part of the immune system, which detect and fight viruses and bacteria. There are different types of white blood cells and they make up less than 1% of blood.

Plasma transports nutrients, hormones and proteins. A yellow liquid (mainly water) that makes up about 55% of the body's blood volume.



Platelets are responsible for starting the process of clotting at a wound. The clot blocks the injury until proper healing can happen.

