

## The Circulatory System

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The Circulatory System is made up of the heart, blood, and blood vessels. There are over 80 to 100 000 kilometres of blood vessels in our body. Blood vessels are elastic tube-like veins, arteries and capillaries.

The circulatory system has the job of moving blood through the entire body. Blood is made up of plasma, white cells, red cells, and platelets. White cells fight infection, red cells carry oxygen, and platelets cause the blood to clot. Blood is the main mover of oxygen, nutrients/food, heat, and hormones needed for energy and growth to our tissues and organs. It also acts to help remove waste (CO<sub>2</sub>, urea).

Your heart is the size of a fist and is found on the left side of the chest. Your heart is a strong hollow muscle that can be compared to two pumps. The left side pumps oxygen rich blood into your arteries. Arteries branch out into smaller and smaller blood vessels. The smallest are called capillaries which are 0.007 mm across. In the capillaries, the blood releases oxygen and nutrients to the cells which turn them into energy. The “used” blood brings waste products back to the right side of the heart. Then it is sent to your lungs for fresh oxygen and flows to the left side to start all over again. All this takes 30 seconds.

“Blue blood” is blood that is low in oxygen. The artery that carries blue blood to your lungs is called the pulmonary artery. The veins carrying red blood from the lungs to the heart are the pulmonary veins.

Red blood carries oxygen. The largest artery in the body is the aorta, and it is 3 cm across. The largest vein is the inferior vena cava.

Valves in the heart keep the blood moving in the right direction. Blood is cleaned in the two kidneys which are located on either side of the spine near the small of the back.

During your lifetime, your heart beats 2.5 billion times.

The human body contains 6 litres of blood.

An adult heart pumps 7 500 litres of blood a day.

A baby's heart beats 120/minute.

A child's heart beats 90/minute.

An adult's heart beats 70/minute.