

## How Your Heart Works

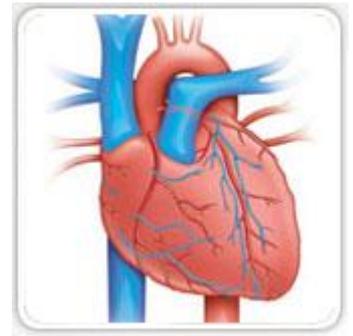
### Your heart is a pump. It keeps blood moving around your body.

The blood delivers oxygen and nutrients to all parts of your body, and carries away unwanted carbon dioxide and other waste products.

The heart has four chambers - two on the left side and two on the right. The two upper chambers are called the **atria**, and the two lower chambers are called the **ventricles**.

The two sides of the heart are divided by a muscular wall called the **septum**.

Each side of the heart has a 'one-way valve system', which means that the blood travels only in one direction through the two chambers on each side.



### The heart and circulatory system

With each contraction, or heartbeat, the heart pumps blood forward from the left side of the heart through the aorta and into the arteries.

The arteries divide off into smaller and smaller branches to supply a microscopic network of capillaries, taking the blood to every part of your body.

The blood then travels back to the heart. First it goes from the capillaries into the veins.

The branches of the veins join to form larger veins, which deliver the blood back to the right side of your heart.

As the heart relaxes in between each heartbeat or contraction, blood from your veins fills the right side of your heart, and blood from the lungs fills the left side of your heart.

The two sides of the heart are separate but they work together. The right side of the heart receives dark, de-oxygenated blood which has circulated around your body.

It pumps this to your lungs, where it picks up a fresh supply of oxygen and becomes bright red again.

Each side of the heart has a thin-walled 'collecting chamber' (the **atrium**) which helps to fill the thick-walled main pump (the **ventricle**).

The heart wall is made up of special muscle called **myocardium**. Like every other living tissue, the myocardium itself needs a continuous supply of fresh blood.

This supply of blood comes from the **coronary arteries** which start from the main artery (the aorta) as it leaves the left ventricle.

The coronary arteries spread across the outside of the myocardium, feeding it with a supply of blood.

This circulatory system is called the **cardiovascular system**. It contains about 5 litres (8 pints) of blood which your heart is continuously recirculating.

Each day, your heart beats about 100,000 times and pumps about 23,000 litres (5,000 gallons) of blood.

