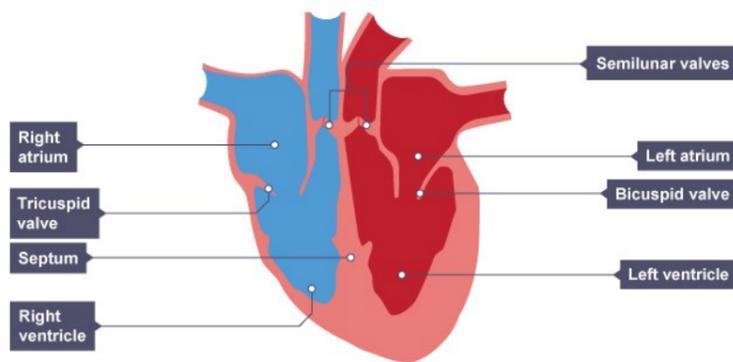# Cardiovascular System

| Name	Function
Atria (Plurak of atrium)	This is where blood is collected when it eneters the heart.
Ventricles	These pump the blood out of the heart to the lungs or around the body.
Septum	This seperates the right hand side and the left hand side of the heart.
Tricuspid Valve	Allow blood flow from the right atrium to the right ventrical.
Bicuspid Valve	Allows blood flow from the left atrium and left ventrical.
Semilunar Valve	These stop the back flow of blood into the heart.

BLOOD PRESSURE

When the **heart contracts** it **pushes blood into blood vessels** which creates blood pressure.

A blood pressure reading consists of two values:

1) **Systolic value** – blood pressure when the **heart is squeezing**
2) **Diastolic value** – blood pressure when the heart is **relaxing**.

The average blood pressure for an adult is 120/80 mmHg. The **first number is the systolic value** and the **second number is the diastolic value**.

BLOOD VESSELS: There are **four main blood vessels** that take blood into and out of the heart.
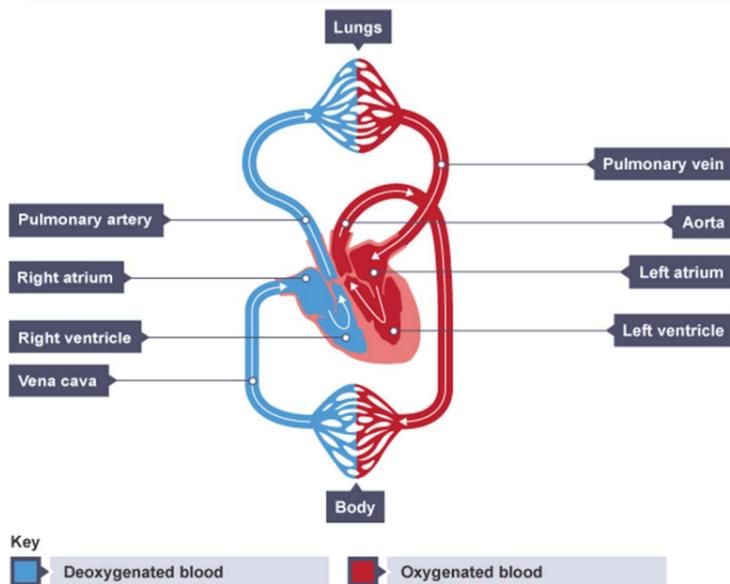
FUNCTIONS OF THE CV SYSTEM

1) **Deliver oxygen and nutrients to the body.**
2) **Remove the waste products such as carbon dioxide and lactic acid.**
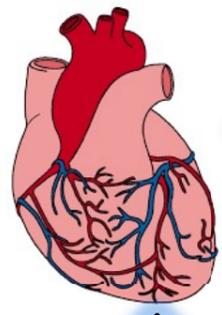3) **Protection against disease and infection.**
4) **Maintain body temperature.**

Heart rate is measured in beats per minute (bpm). During exercise the heart rate increases so that sufficient blood is taken to the working muscles to provide them with enough nutrients and oxygen. An increase in heart rate also allows for waste products to be removed.

Maximal heart rate can be worked out by the following equation:

Maximum HR = 220 - age

Heart rate (HR) is the number of times the heart beats (or the ventricles pump blood out) in one minute. The average resting HR is approximately 70 beats per minute (bpm).

Stroke volume (SV) is the amount of blood pumped out of the ventricles each time they contract. The average resting SV is approximately 70 ml.

Stroke volume increases which means more blood is pumped out of the heart each time it contracts.

At rest a person's cardiac output is approximately 5 litres per minute, while during exercise it can increase to as much as 30 litres per minute as both their heart rate and stroke volume increase.

As exercise increases, cardiac output (Q) also increases. This has the effect of increasing blood pressure.

A typical blood pressure reading for a person at the start of exercise would be around 160/85 mmHg.

Cardiac output (Q) is the amount of blood pumped from the heart every minute and can be calculated by multiplying heart rate (HR) by stroke volume (SV).   CO= SV x HR

Maximum Heart Rate = 220-Age