

# Science Knowledge Organiser: What would a journey through your circulatory system look like?

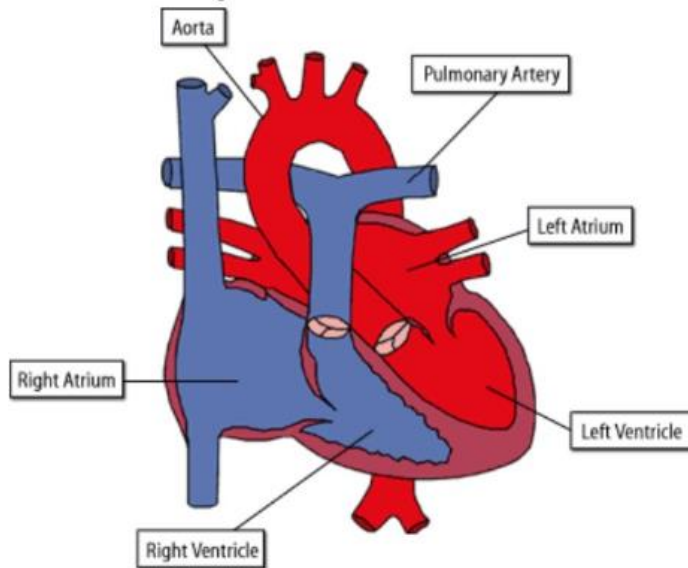


## The Circulatory System

Your circulatory system is made up of three parts: the heart, blood vessels and the blood itself.

Your **heart** keeps all the **blood** in your circulatory system flowing. The blood travels through a network of **blood vessels** to everywhere in your body. It carries useful materials like **oxygen**, water and nutrients and removes waste products like **carbon dioxide**.

The Function of the Heart



## The Heart

Your heart is a very strong muscle and plays an important part in being healthy. It keeps all the blood in your circulatory system flowing.

Your heart first pumps blood to your **lungs**. Here, the blood picks up oxygen from the air that you have breathed in.

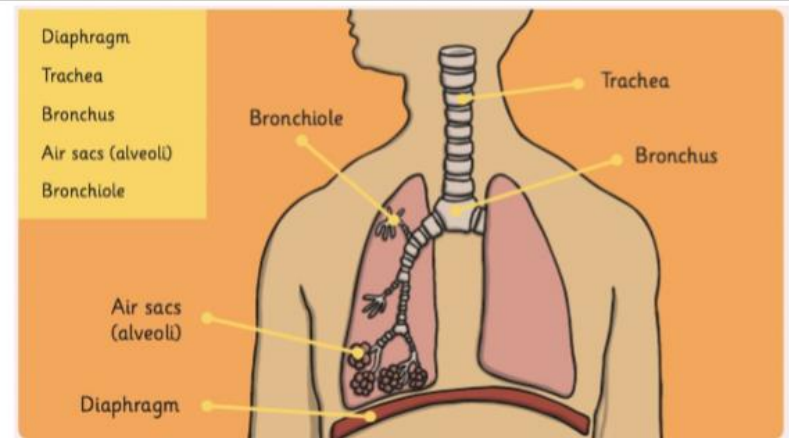
The blood (carrying oxygen) then travels back to your heart. The heart gives the blood a second push. This time, it's sent all around the body to the various organs and tissues.

## Diet and Lifestyle

Fatty rich foods can clog arteries and veins, preventing blood from delivering what is needed.

Exercise can improve the health of a person by removing fatty deposits from the body. Some exercises are called cardiovascular and are designed to improve the fitness of the overall circulatory system by strengthening the organs and pulse rate.

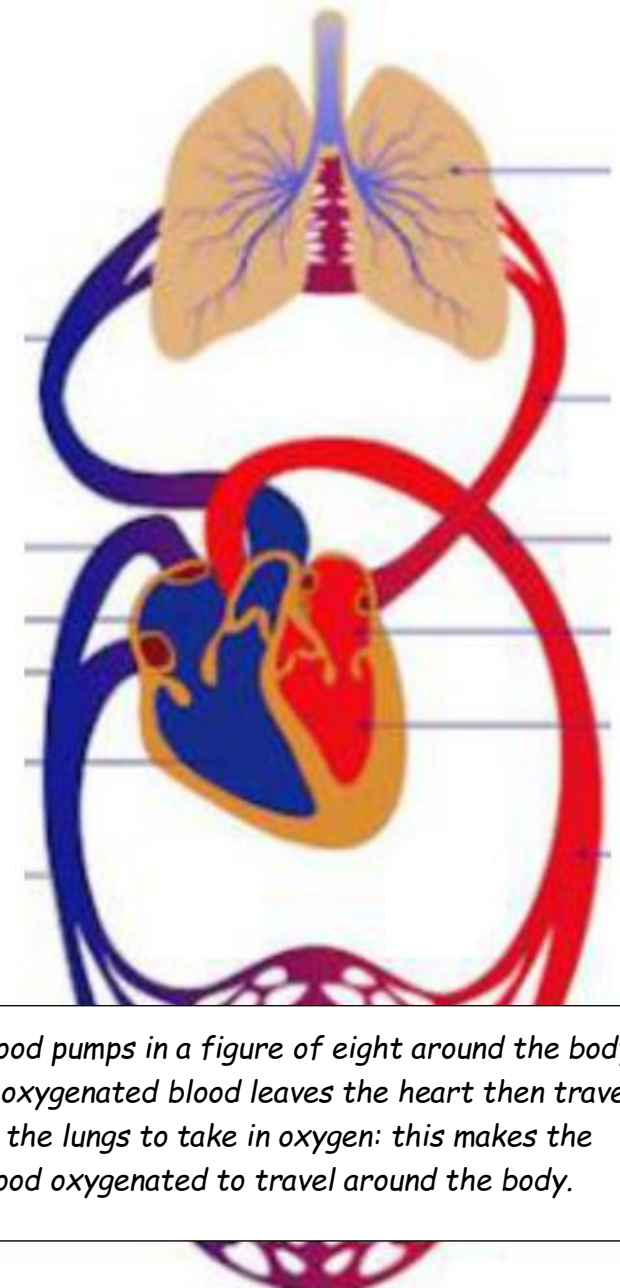
## The Lungs



<b>Glossary</b>	
Heart	The organ in your chest that pumps the blood around your body.
Blood vessels	The narrow tubes through which your blood flows including arteries, veins and capillaries.
Blood	A red fluid that is pumped by the heart and supplies the body with nutrients and oxygen.
Veins	Blood vessels that carry blood <b>TO</b> the heart.
Arteries	Blood vessels that carry blood <b>AWAY</b> from the heart.
Capillaries	Microscopic blood vessels found in the muscles and lungs.
Oxygen	A colourless gas that exists in large quantities in the air. All animals (including humans) need oxygen in order to live.
Lungs	The two spongy organs inside your chest which fill with air when you breathe in. They remove carbon dioxide from the blood and add oxygen.
Ribcage	The bony structure consisting of the ribs and their connective tissue that encloses and protects the lungs and heart.
Carbon dioxide	A gas produced by animals (including humans).
Oxygenated	To be enriched with oxygen.
Deoxygenated	To be depleted (without) of oxygen.

### **Did you know?**

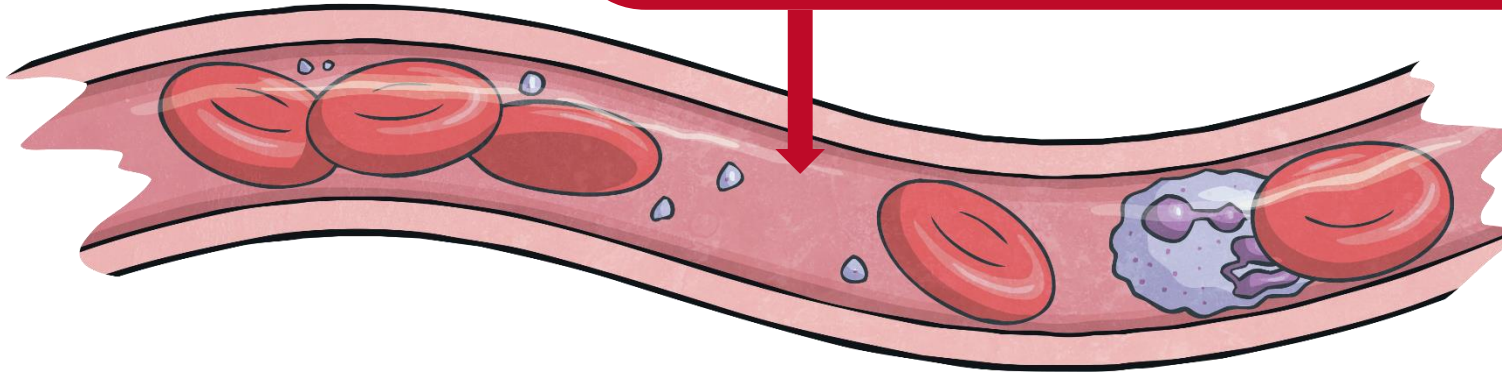
- The heart beats about 100,000 times per day (about 3 billion beats in a lifetime).
- A human heart is roughly the size of a large fist.
- An adult heart beats 60 to 80 times per minute.
- A new-born baby's heart beats faster than an adult's heart: it beats 70 to 190 times per minute.
- The heart pumps approximately 6 litres of blood throughout the body.
- The heart is located in the centre of the chest, usually pointing slightly left.



*Blood pumps in a figure of eight around the body - deoxygenated blood leaves the heart then travels to the lungs to take in oxygen: this makes the blood oxygenated to travel around the body.*

# Blood

Plasma is the liquid part of blood which contains water and protein.



Red blood cells carry oxygen through your body



White blood cells fight infections when you're sick



Platelets help you stop bleeding when you get hurt

