

The Circulatory System Knowledge Organiser

The body's **circulatory system** is responsible for transporting nutrients, water and oxygen to the billions of cells all around your body. It also carries away **waste**, such as **carbon dioxide**, that the cells produce. It is an amazing system that travels through your entire body connecting all your body cells.

The Human Circulatory System

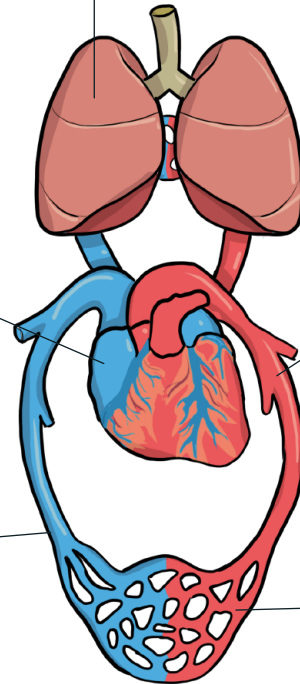
The lungs provide the blood with **oxygen**.

The heart pumps **deoxygenated blood** to the lungs.

The heart pumps oxygenated blood through blood vessels called **arteries**.

Deoxygenated blood and nutrients travel back to the heart through blood vessels called **veins**.

The blood travels to all other body parts, delivering oxygen, water and nutrients.



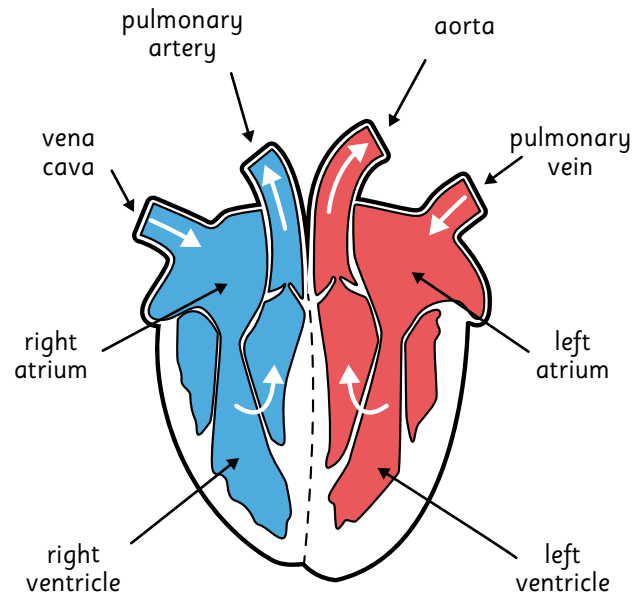
Health Heroes and Villains

You can keep your body healthy by eating a balanced diet, ensuring you have good hygiene and exercising regularly.



You should avoid eating lots of unhealthy food, smoking, drinking alcohol and becoming inactive.

The Human Heart



Key vocabulary

absorb - take in or soak up

aorta - the main artery in the human circulatory system

arteries - the tubes that carry oxygenated blood around the body

atria - the upper chambers of the heart

blood vessels - the tubes that carry blood around the body (veins, arteries and capillaries)

deoxygenated - refers to blood that is not carrying oxygen

nutrients - a substance that provides nourishment essential for the maintenance of life and for growth

oxygenated - refers to blood that is carrying oxygen

pulse - the beat of your heart

veins - the tubes that carry deoxygenated blood back to the heart

vena cava - a large vein that carries deoxygenated blood into the heart

ventricles - the main chambers of the heart

villi - finger-like structures that line the small intestine to absorb water and nutrients



Absorbing Water and Nutrients

We absorb water and nutrients through the food we eat.

The **small intestine** is lined with villi.

Villi have veins and arteries running through them.

The blood in the arteries delivers **oxygen** to the intestine.

Nutrients are absorbed into the blood, which are then taken away to other parts of the body.

Water is also absorbed in this way. The blood carries the water and nutrients to the parts of the body that need it.



Did you know?

- The heart pumps all the time. It pumps more than **2.5 billion times** over an average lifetime.
- If you were to lay out all of the **blood vessels** in one adult, end-to-end, they would stretch about **60,000 miles**. It's only 9500 miles from London to Australia!
- We have to exercise our heart to keep it strong. Doctors advise at least **30 minutes of activity** a day that gets your heart rate up!
- An average-sized adult carries about **5 litres of blood**.

