

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 circulatory system has **three** main parts:



heart

The heart is a muscle that pumps blood around the body.



blood

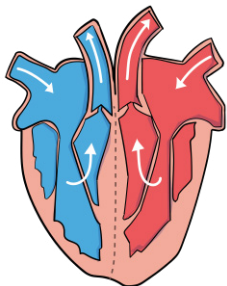
Blood has four main parts: red blood cells, white blood cells, platelets and plasma.



blood vessels

Arteries, veins and capillaries are all types of blood vessels.

The heart

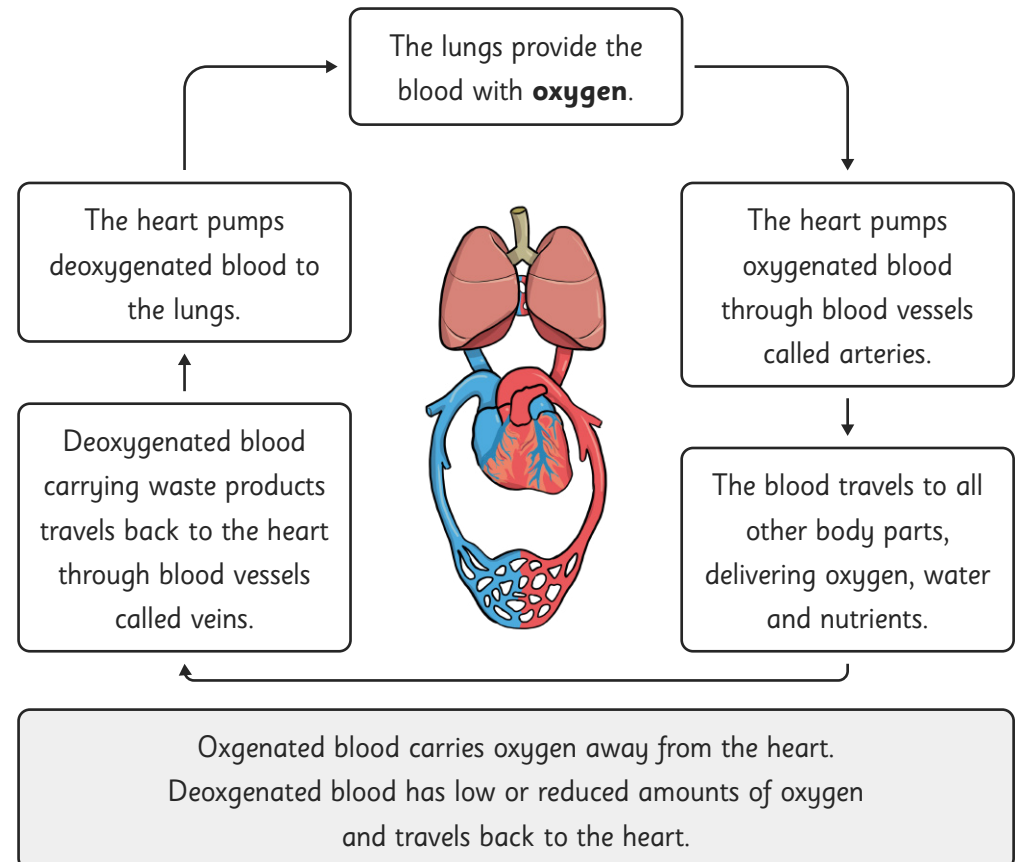


valves

The heart has **four chambers**. The two top chambers are called **atria**, and the bottom two are called **ventricles**. When your heart beats, it contracts and pushes blood out of the two atria, then into the two ventricles, and finally around the body and lungs. Your heart then relaxes, allowing blood to flow into the atria chambers again. A wall of muscle keeps the right and left side separate so the oxygenated and deoxygenated blood doesn't mix. A valve stops the blood flowing backwards.

Note: the singular form of atria is atrium

The circulatory system



Absorbing nutrients and water

The **circulatory** system and the **digestive** system work closely together to absorb and transport water and nutrients.

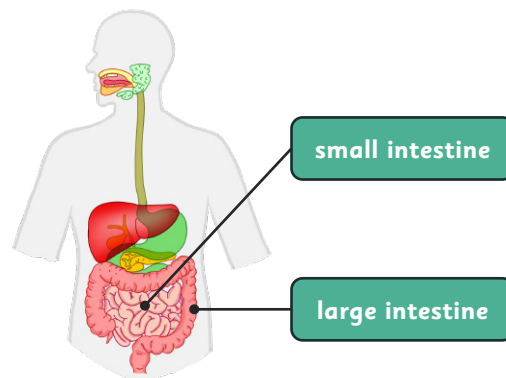
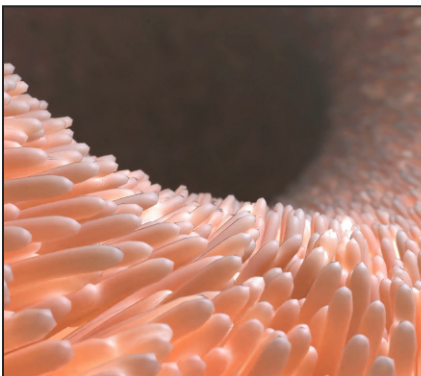
The digestive system breaks food down into nutrients. The nutrients pass into the blood in the **small intestine**. The small intestine is lined with villi.

Villi have veins and arteries running through them. Nutrients are absorbed into the blood, which are then taken away to other parts of the body.

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

Remember:

- **digestive system** – breaks food down into nutrients and absorbs them into blood.
- **circulatory system** – carries the nutrient and water in the blood to the rest of the body.



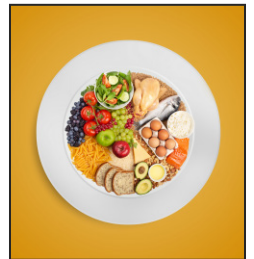
How lifestyle choices affect the body

Our bodies are affected by choices we make everyday.

You can keep your body healthy by eating a balanced diet, exercising regularly, getting enough sleep, drinking plenty of water and having good personal hygiene.

You should avoid eating lots of unhealthy food (food with lots of fat or sugar), smoking, vaping, drinking alcohol and becoming inactive.

Drugs are substances that change how the body and brain works. They can be helpful when they are used as medicine to treat illness however some drugs can be harmful if they are misused. Illegal drugs are especially dangerous and against the law.



Key vocabulary

absorb 	addictive 	blood 	contract 	diet 	digest 	drug 	enquiry
exercise 	evidence 	function 	heart 	illegal 	illness 	legal 	lifestyle
muscle 	prescribe 	pulse 	pump 	reliable 	transport 	system 	variable