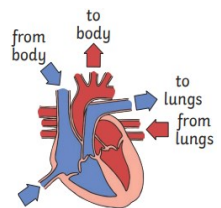




Key Vocabulary

circulatory system	A system which includes the heart, veins, arteries and blood transporting substances around the body.
heart	An organ which constantly pumps blood around the circulatory system.
pulmonary	relating to the lungs
gas exchange	The process by which oxygen enters the bloodstream from the lungs and the lungs receive carbon dioxide from the blood to breathe out.
villi	Structures in the small intestine which help absorb nutrients.
nutrients	Substances that animals need to stay alive and healthy.
kidneys	An organ which filter blood and make urine from waste and excess water
liver	An organ which processes waste from the blood and produces bile.
drug	A substance containing natural or man-made chemicals that has an effect on your body when it enters your system.
alcohol	A drug produced from grains, fruits or vegetables when they are put through a process called fermentation.

The Heart

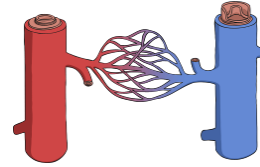


The heart is an organ which pumps blood to the lungs to get oxygen. It then pumps this oxygenated blood around the body.



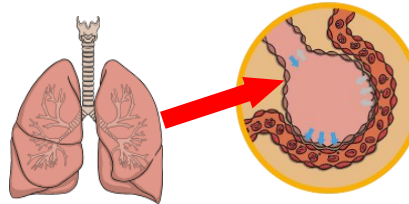
Capillaries

Veins carry de-oxygenated blood towards the heart. Arteries carry oxygenated blood away from the heart. Capillaries are the smallest blood vessels in the body and it is here that the exchange of water, nutrients, oxygen and carbon dioxide takes place.



Gas Exchange

Gas exchange takes place in the alveoli in the lungs.

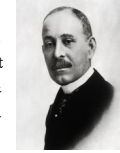


Cells

red blood cells	carries oxygen through a body	
white blood cells	fights infections when you are sick	
plasma	helps to stop bleeding when you get hurt	

Key Scientists

Daniel Hale Williams was an American surgeon and hospital founder. He founded Provident Hospital in 1891, which was the first non-segregated hospital in the United States.

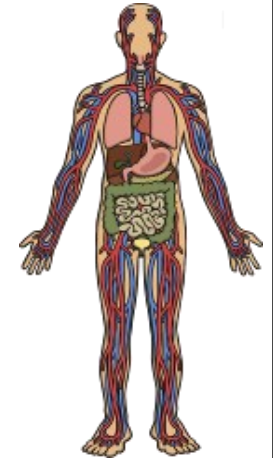


Mary Maynard Daly was an American biochemist who was the first African-American woman to earn a PH.D in chemistry.



Healthy Bodies

Regular exercise strengthens muscles including the heart muscle; improves circulation; increases the amount of oxygen around the body; releases brain chemicals which help you feel calm and relaxed; helps you sleep more easily; and strengthens bones. A healthy diet involves eating the right types of nutrients in the right amounts. Drugs, alcohol and smoking have negative effects on the body.



Inside the Small Intestine

Nutrients pass through the villi and are absorbed into the blood vessels. Water is absorbed in the small intestine in exactly the same way as other nutrients. Blood transports gases (mostly oxygen and carbon dioxide), nutrients (including water), and waste products.

