

What? (Key Knowledge)

The **heart** pumps blood to the lungs to get oxygen. It then pumps this oxygenated blood around the body.

Gas exchange takes place in the **alveoli** in the lungs.

Arteries carry oxygenated blood away from the **heart**.

Veins carry deoxygenated blood toward the **heart**.

Capillaries are the smallest blood vessels in the body.

It is in the capillaries around the **alveoli** that the exchange of water, nutrients, oxygen and carbon dioxide takes place.

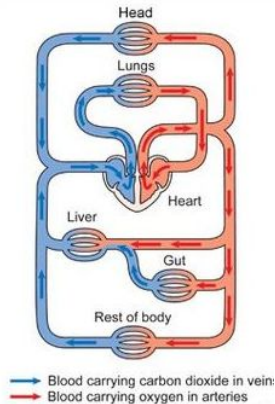
In the **small intestine** the **nutrients** pass through the **villi** and are absorbed into the blood vessels. Water is absorbed in the small intestine in exactly the same way as other **nutrients** are absorbed.

Blood transports gases (mostly oxygen and carbon dioxide), nutrients (including water) and waste products.

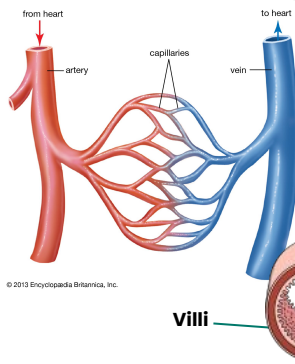
A healthy diet involves eating the right types of **nutrients** in the right amounts. Drugs, **alcohol** and smoking have negative effects on the body.

Diagrams and Symbols

The Circulatory System

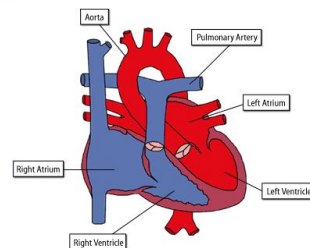


Blood Vessels

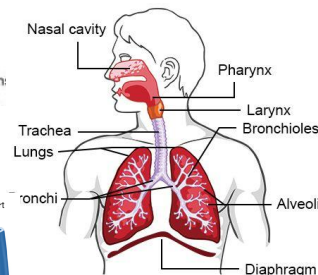


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The Heart



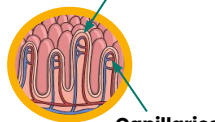
The Respiratory System



Muscle layer

Villus

Villi



Capillaries

Key Vocabulary	Definition
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.
Alveoli	Tiny air sacs in the lungs where gas exchange takes place.
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	Organs 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.