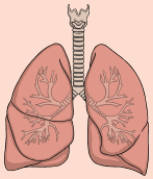
Y6 Science: Animals Including Humans Term 4

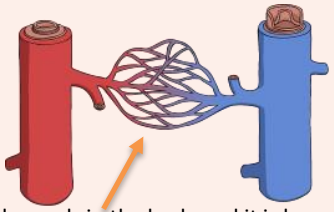
Key Knowledge

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 de-oxygenated blood toward 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.

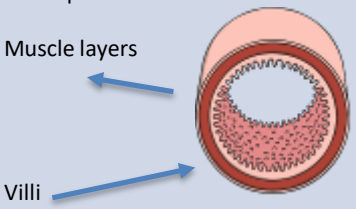
Vocabulary

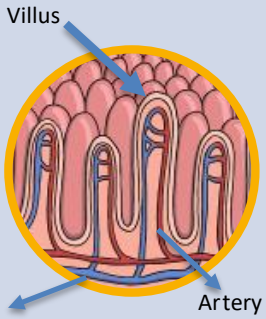
Villi	Structures in the small intestine which help absorb nutrients.
Nutrients	Substances that animals need to stay alive and healthy.
Kidneys	A pair of organs that remove waste and extra water from the blood and help keep chemicals (such as sodium, potassium and calcium) balance in the body.
Liver	An 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.
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.
Aveoli	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. This process happens in the alveoli and the capillaries around the alveoli.

Key Knowledge

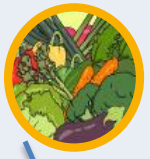
Inside the Small Intestine
The **nutrients** pass through the **villi** and are absorbed into the blood vessels. Water is absorbed in the small intestine in exactly the same way as other **nutrients** are absorbed.

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





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;
- strengthens bones.



Drugs, **alcohol** and smoking have negative effects on the body.

A healthy diet involves eating the right types of **nutrients** in the right amounts.

Prior knowledge

Y3 - Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).

Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

Key skills /investigative focus

To plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurement with increasing accuracy and precision, taking repeat readings when appropriate

Recording, reporting and presenting results and findings appropriately

Big Questions/ Challenging Perceptions

Explore why people might choose to smoke or take drugs, even though there are so many risks to their health.