

Key Knowledge

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

Mammals have **hearts** with four chambers. Notice how the blood that has come from the body is **deoxygenated**, and the blood that has come from the lungs is **oxygenated** again. The blood isn't actually red and blue: we just show it like that on a diagram.

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.

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

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

Plasma is liquid. The other parts of your blood are solid.

Red blood cells carry oxygen through your body.

White blood cells fight infection when you're sick.

Platelets help you stop bleeding when you get hurt.

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

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

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.

It can even help to stop us from getting ill.

Blood transports:

- gases (mostly oxygen and carbon dioxide);
- nutrients (including water);
- waste products.

The liquid part of blood contains water and protein. This is called plasma.

Key Skills

- To know the three main parts of the circulatory system and describe the job of the heart.
- To describe the important jobs of the blood vessels and blood.
- To be able to describe the importance of exercise and how it affects the heart.
- To be able to plan a scientific enquiry. To be able to record, report and present results appropriately.
- To understand that regular exercise is important for a healthy body.
- To be able to explain how diet and exercise affect the body.
- To be able to recognise the impact of drugs and alcohol on the way bodies function.

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.

Blood vessels: The tube-like structures that carry blood through the tissues and organs.

Veins: Arteries and capillaries are the three types of blood vessels.

Oxygenated blood: Oxygenated blood has more oxygen. It is pumped from the heart to the rest of the body.

Deoxygenated blood: is blood where most of the oxygen has already been transferred to the rest of the body.

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.

Nutrients: Substances that animals need to stay alive and healthy.