

# Science Knowledge Organiser—Animals Including Humans

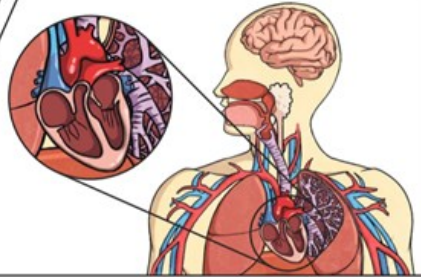
## Curriculum Objectives

By the end of this unit, your child will be able to:

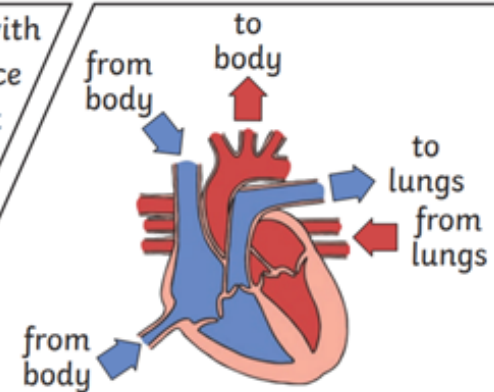
- Identify the main parts of the circulatory system.
- Explain the main functions of the heart, lungs and blood vessels.
- State how the digestive system breaks down nutrients.
- Explain what constitutes a healthy lifestyle.
- Describe how drugs and alcohol can impact negatively on the body.
- Take accurate measures of the pulse rate.
- Record results and write a report which would include a conclusion on their findings.

The **heart** pumps blood to the lungs to get oxygen.

It then pumps this **oxygenated blood** around the body.



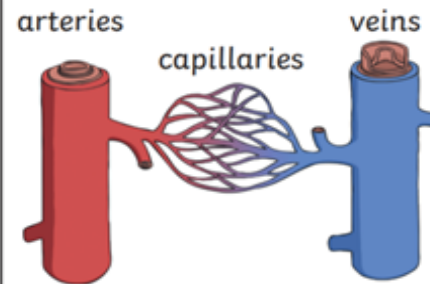
Mammals have **hearts** with four chambers. Notice how the blood that has come from the body is **deoxygenated**, and the blood that has come from the lungs is **oxygenated** again. The blood isn't actually red and blue: we just show it like that on a diagram.



**deoxygenated blood** → ← **oxygenated blood**

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**.

If you linked up all of the body's blood vessels, including arteries, capillaries, and veins, they would measure over 60,000 miles.


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



Red blood cells carry oxygen through your body.



Platelets help you stop bleeding when you get hurt.




White blood cells fight infection when you're sick.

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.

### Interesting Questions

How many litres of blood can be found in your body?

How many times would your heart beat in a lifetime?

### Key Vocabulary/Terminology

<b>Circulatory System</b>	A system which includes the heart, veins, arteries and blood transporting substances around the body.
<b>Heart</b>	An organ which constantly pumps blood around the body.
<b>Blood Vessels</b>	Tube-like structures which carry blood through the tissues and organs.
<b>Oxygenated Blood</b>	Blood which has more oxygen. It is pumped from the heart to the body.
<b>Deoxygenated Blood</b>	Blood where most of the oxygen has already been transferred to the rest of the body.
<b>Drug</b>	A substance containing natural or man-made chemicals that has an effect on your body when it enters your system.
<b>Alcohol</b>	A drug produced from grains, fruits, vegetables when they are put through a process called fermentation.
<b>Nutrients</b>	Substances that animals and humans need to stay alive and healthy.