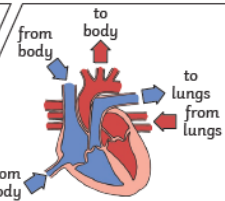


End points

- To understand the circulatory system and the impact that diet, exercise, drugs and my lifestyle have on the way my body functions.

Facts

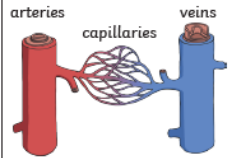
Mammals have **hearts** with four chambers. Notice how the blood that has come from the body is **deoxygenated**, and the blood that has come from the lungs is **oxygenated** again. The blood isn't actually red and blue: we just show it like that on a diagram.



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.

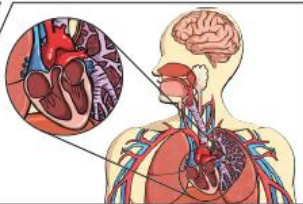
Arteries carry **oxygenated blood** away from the **heart**.



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.

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



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.



Working Scientifically Skills

- I can suggest improvements and raise further questions.
- I can ask my own questions.
- I can use different ways to answer them.
- I can set up my own simple tests.
- I can make careful observations.
- I can use different equipment to measure accurately in standard units.
- I can gather, record, classify and present data in different ways including drawings, labelled diagrams, keys, bar charts and tables.
- I can explain what I have found out using speaking and writing.
- I can draw simple conclusions and make predictions for new values.
- I can use relevant scientific language.

Year 6



Animals Including Humans

Key questions

- What are the functions of the heart, blood vessels and blood?
- How are nutrients and water transported within animals, including humans?
- What is the impact of diet, exercise and lifestyle on the way our bodies function?
- What is a scientist?
- What is science?

Facts

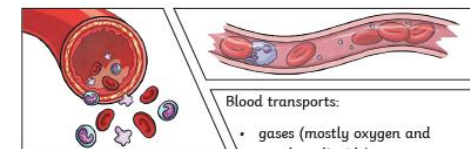
Drugs, alcohol and smoking have negative effects on the body.



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



Internal organs	Your organs, parts of your body that have specific functions, do the work needed to keep you alive.
Digest	To break down into materials that can be absorbed and used by the body.
Circulatory system	A system which included the heart, arteries and blood transporting substances around the body.
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.
Lifestyle	The usual way of life of a person, group, or society
Nutrients	Substances that animals need to stay alive and healthy.
Damage	To cause harm.
Pulse	A throbbing of blood vessels as blood goes through them. You can feel someone's pulse in their wrist, thumb or neck, where vessels are closer to the skin. A normal pulse is below 100 beats per minute. Our pulse quickens when we exercise because the muscles being used need more oxygen.
Oxygenated blood	Has more oxygen. It is pumped from the heart to the rest of the body.
Carbon dioxide	A molecule that contains two oxygen atoms and one carbon atom.



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.

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.

