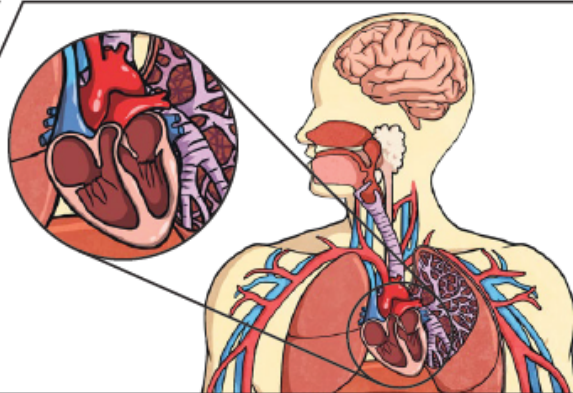


Year 6 Animals including Humans - What is our **Circulatory System** and how does it work?

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

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.

The diagram shows a four-chambered heart. Arrows indicate the flow of blood: from the body to the heart (labeled 'from body'), from the heart to the body (labeled 'to body'), from the heart to the lungs (labeled 'to lungs'), and from the lungs to the heart (labeled 'from lungs'). Below the heart, a legend shows a blue arrow pointing right labeled 'deoxygenated blood' and a red arrow pointing left labeled '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.

The diagram shows a red artery on the left, a network of capillaries in the middle, and a blue vein on the right. Arrows indicate the direction of blood flow: from the artery to the capillaries, and from the capillaries to the vein.

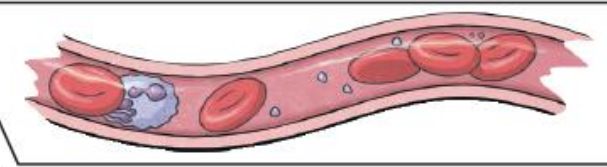
Arteries carry **oxygenated blood** away from the **heart**.

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.

Key Vocabulary

Words I should already know	skeleton, muscles, cell digestion, nutrition, oxygen, blood, heart, lungs
Tier 2 Vocabulary	chamber, circulation, vessel, filter, expel, regulate, transform, excretion
Tier 3 Vocabulary	plasma, platelet, artery, capillary, vein, ventricle, toxin



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

Blood transports:

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

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



Platelets help you stop bleeding when you get hurt.



Red blood cells carry oxygen through your body.



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.

