

Why Do We Have Blood? To understand the function of blood in the body. To demonstrate my understanding through labelled scientific diagrams. Baseline: Human Circulatory System 	Why Do I Have a Heart? To understand the function of the heart. To demonstrate my understanding through a scientific model. 	What is the Double Circulatory System? To understand that the circulatory system has two parts, one for oxygenated blood and the other for deoxygenated. To represent my knowledge and understanding through drama and physical representation 	(Split into two) Why Does Heart Rate Change? To understand why heart rates may change when exercising. To use prior learning and knowledge to make logical predictions. To evaluate the validity or results, considering the accuracy and fairness of the test.  	TAPS Is Moving the Only Thing That Changes Heart Rate? To explore whether other factors can contribute to a change in heart rate. To use prior learning and investigation to make logical predictions. To effectively record results during an investigation. 	What Else Can Affect Heart Rate? To explore whether other factors can change a person's heart rate. To demonstrate my understanding through a scientific explanation. 	What is the Impact of Diet, Exercise, Drugs, and Lifestyle on Health? To understand the impact of diet, exercise, drugs, and lifestyle choices on overall health and well-being. To effectively research and record my findings of the impacts of diet, exercise, drugs and choices. 	What Are the Effects of Health Choices on the Circulatory System? To understand the effects of lifestyle choices on the health of the circulatory system. To effectively research and record my findings of how health choices impact circulatory systems. Revisit: Human Circulatory System 
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Key Knowledge: Blood

Why do we have blood?

Blood is essential for life. We cannot survive without it.



Blood is a mixture of liquids and solids that travel around the body to keep us healthy.

The four parts of blood are:

Plasma – a yellowish liquid that carries the other parts of blood around the body.

Red blood cells – red cells that carry oxygen around the body.



White blood cells – cells that are responsible for fighting germs and infections.

Platelets – part of the blood that clots when you get a cut.

Key Knowledge: Heart

Why do animals have a heart?

The **heart** is a muscular organ, about the size of a fist, that pumps blood around the body.



It **does not** make blood (blood is made in bones).



The heart sits in the chest, just left of the centre.

The heart has four **chambers**. Two chambers receive blood and two pump it out to different parts of the body.

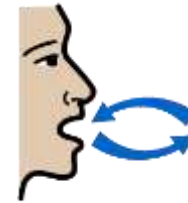


The heart also has **valves** that open and close to allow blood to pass through. This is what makes our heart 'beat'.

Key Knowledge: Respiratory System

What is the respiratory system?

The **respiratory system** allows us to breathe.



The main jobs are to bring oxygen into the body and remove carbon dioxide from the body.



The main organ of this system is the **lungs**.

Key Knowledge: Circulatory System

What is the circulatory system?

The **circulatory system** is how **blood circulates** (moves around) the body to organs and muscles.



It is made up of three parts:
Blood
Blood vessels
Heart

Key Knowledge: Blood Vessels

What are blood vessels?

Blood vessels are tubes that carry blood throughout the body.



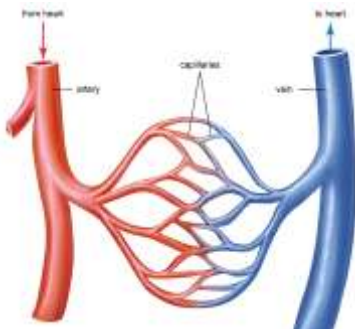
There are **three** main types of **blood vessels**.

Arteries
Veins
Capillaries

Arteries carry blood **away** from the heart and to different body parts.

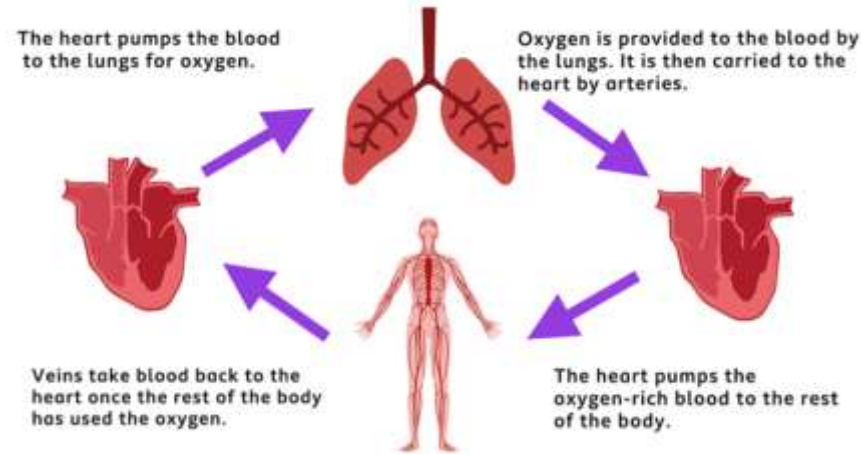
Veins carry blood from different body parts and **into** the heart.

Capillaries are tiny blood vessels that **connect** arteries to veins. they allow oxygen, nutrients and waste to pass between the blood and the body because they are so small and thin.



Key Knowledge: Respiratory System and Circulatory System

How does blood travel around the body?



Key Knowledge: Heart Rate

Why does heart rate change?

Heart rate is how many times your heart beats in a minute. It is measured in beats per minute, or bpm.



When **exercising**, the body uses **more** energy. This means that more blood needs to be pumped around the body, leading to an **increase** in heart rate.



Anxiety and caffeine can also cause heart rate to increase.

Key Knowledge: Health

What is the impact of diet, exercise, drugs, and lifestyle on health?

A person's health can be impacted by:

- **Diet** - The **food** that a person, animal, or community usually eats.
- **Drugs** - **Chemicals** that change the way the body or brain works when consumed.
- **Lifestyle choices** – Daily decisions that affect health such as **sleep**, **work**, and **leisure** activities.

Our diet should be balanced, with different food groups helping us stay healthy.



Some drugs are legal (alcohol, paracetamol, caffeine) and some are illegal. Not all drugs are bad!