



### Lesson Sequence



1. Understand the function of the heart and its role in the circulatory system



2. Identify and compare blood vessels



3. Explore blood



4. Learn how the body transports water and nutrients



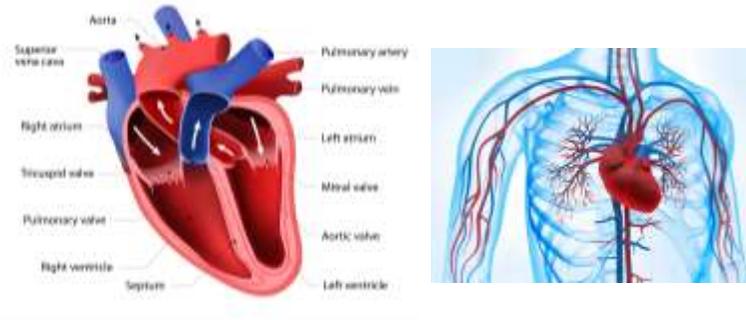
5. Investigate what affects your heart rate



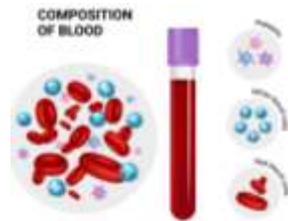
6. Learn about the impact of drugs and alcohol on the body

### The Heart

The **heart** pumps **blood**, carrying nutrients and oxygen, around every part of the body.



The red vessels are **arteries** and the blue vessels are **veins**. **Arteries** have thick, muscular walls and carry **oxygenated** blood from the **heart** to the rest of the body. **Veins** carry **deoxygenated** blood back to the heart and have thinner walls. **Capillaries** are microscopic vessels which link the veins and arteries together.



**Red blood cells** carry **oxygen**. **White blood cells** fight infection as part of the immune system. **Platelets** help to clot (thicken) the blood and form a scab. **Plasma** is the fluid part of the blood, which transports

### Looking After Our Heart



To keep our **heart** and body healthy, we need to:

- eat a balanced diet (not too much sugar or fat);
- exercise regularly;
- drink approximately 2 litres of water a day;
- limit alcohol intake, in adults;
- get approximately 8 hours of sleep.



Drugs, including alcohol, can cause liver damage, poor sleep, high blood pressure, and different types of cancer. Drugs can be classified into four groups – painkillers, stimulants, depressants and hallucinogens.

## Rocket Words

	circulatory system	the system that controls the flow of blood around the body
	BPM	beats per minute measuring heart rate
	diet	the kind of food an animal usually eats
	pulse	the rhythmical throbbing of the arteries as blood is pumped through them
	oxygenated	containing oxygen
	deoxygenated	not containing oxygen
	atrium	the upper chambers of the heart
	ventricle	the lower chambers of the heart
	vessel	tube which circulates the blood through the body
	valve	flaps which open and close to allow blood flow
	diffusion	diffusion is the movement of all liquids and gases
	osmosis	osmosis is the movement of water only

### What I already know:

#### Year 5

- I can describe the changes as humans develop to old age

### What I will learn now:

#### Year 6

- I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- I recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- I can describe the ways in which nutrients and water are transported within animals, including humans

### What I will learn next:

#### KS3

- I know the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.
- I can calculate energy requirements in a healthy daily diet
- I know the consequences of imbalances in the diet, including obesity, starvation and deficiency diseases
- I know the structure and functions of the gas exchange system in humans, including adaptations to function
- I know the effects of recreational drugs (including substance misuse) on behaviour, health and life processes



# Knowledge Organiser: Year 6 - Animals, including humans

## Before and After Test



What is the function of the heart?

---



---



---



---



---

Tick the type of blood an artery carries.

- Deoxygenated
- Oxygenated

Where do veins take the blood to?

---



---

Name 2 ways to look after your heart:

---



---



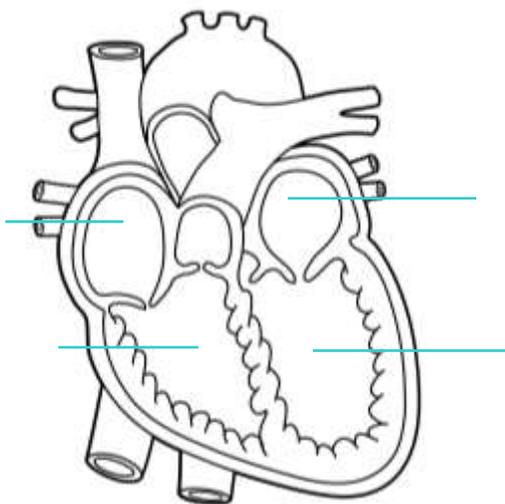
---



---

Label the diagram of the heart with the following:

**left atrium**   **right atrium**   **left ventricle**   **right ventricle**



Draw lines to match the blood component to its function:

- |                   |                                   |
|-------------------|-----------------------------------|
| platelets         | carry oxygen                      |
| red blood cells   | the fluid carrying the components |
| plasma            | fight infection                   |
| white blood cells | clot blood                        |



Name 2 effects that taking drugs can have on the body :

---



---



---



---