# Animals Including Humans (Y6)

**Vocabulary**

**atrium** – the two upper chambers of the heart

**artery** - carries oxygenated blood away from the heart

**blood** – a red fluid that is pumped around the body by the heart. It delivers needed substances such as nutrients and oxygen to organs and tissue and removes waste products.

**blood vessels** - a series of tubes inside your body carrying blood through tissues and organs; arteries, veins and capillaries

**capillary**- microscopic blood vessels found in muscles.

**carbon dioxide**- a colourless waste gas produced by animals. They breathe carbon dioxide out from their lungs.

**carbohydrates** - sugars and starches which are found in foods such as vegetables, grains, rice, breads, and cereals give us energy.

**drugs** - substances which have an effect on the body when ingested. They can be addictive and can damage the heart, brain and other organs.

**heart** – a muscular organ located in the chest that pumps blood around the body

**lungs** – organs in the chest that take in oxygen from the air we breathe

**nutrients** - substances found in food that help bodies stay healthy

**oxygen** - a colourless gas in the air. All plants and animals need oxygen in order to live.

**proteins** – nutrients that build and repair tissues in the body

**vein** – a blood vessel that carries carbon-dioxide rich blood to the heart

**ventricle** – the two lower chambers of the heart

**Important People:**

**William Harvey (1578 – 1657)**

Harvey explained how the heart propelled the blood in a **circular motion** through the body. His work with others also identified that **veins had one-way valves**.

**Galen (AD129)**

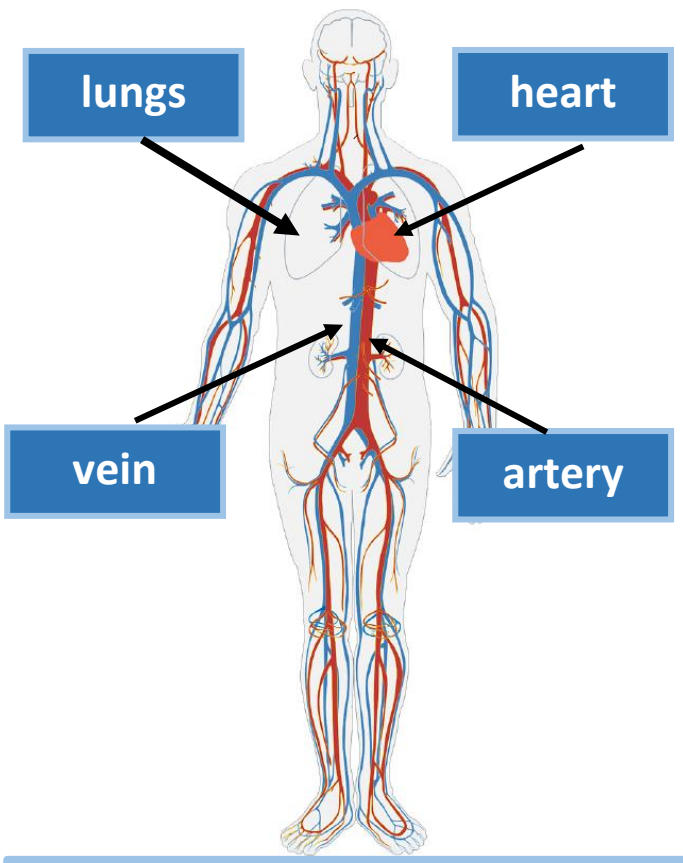
He discovered **pulmonary circulation** (**blood vessels between heart and lungs**). In AD157 he was **chief physician to Roman gladiators**, where he watched the still-beating hearts of fighters who lay dying.

**Take Aways**

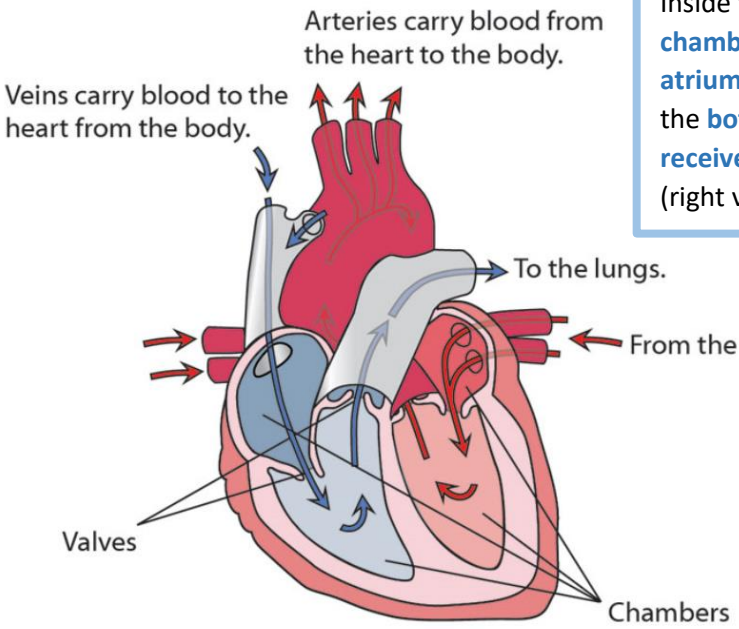
- ✓ **I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.**
- ✓ **I can recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function.**
- ✓ **I can describe the ways in which nutrients and water are transported within animals, including humans.**
- ✓ **I can plan a scientific enquiry that answers a question.**
- ✓ **I can plan a scientific enquiry that involves controlling variables and taking accurate measurements.**
- ✓ **I can use labelled diagrams and graphs to show scientific results and explain why they happened.**

**Big Ws**

# The Circulatory System




# The Heart




Inside the heart there are **four different chambers**. At the **top**, the **left and right atrium** are where blood is **first collected**. At the **bottom**, the **left and right ventricles receive** this blood and pump it to the **lungs** (right ventricle) and **body** (left ventricle).

**Nutrients** are **absorbed** into the blood in the **small intestine**. It is within the **capillaries** where this transfer takes place.

There are **6** basic essential **nutrients**:

- **Fats** provide the body with a **slow release of energy** and help it carry out a range of functions.
- **Carbohydrates** are essential to the body. They are sugars or starches that provide a **quick release of energy** for all the cells and tissues in the body.
- **Proteins** ensure the **growth and development of muscles, bones, hair and skin**.
- **Water** helps the body **flush toxins** out and allows **nutrients to be transported** around the body.
- **Vitamins** have many benefits such as **boosting the immune system** and having **healthier skin, teeth and bones**.
- **Minerals** help **strengthen bones** and keep **blood healthy**.