

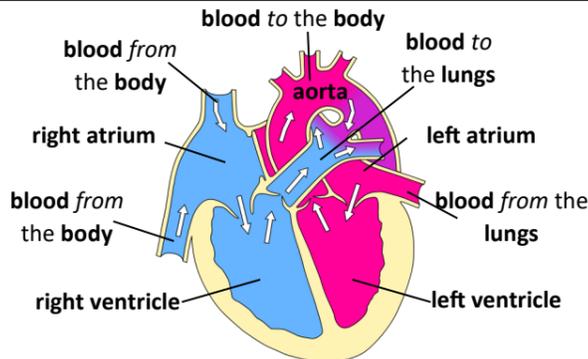
Year 6 - Animals inc Humans



The Circulatory System

Key vocabulary	
Aorta	The main artery in mammals that carries blood from the left ventricle of the heart to all the smaller arteries in the body except those in the lungs.
Chambers	Four different blood-filled areas of the heart
Veins	A blood vessel that carries blood to the heart.
Oxygen	A colourless, odourless gas that is essential for plant and animal respiration.
Nutrients	A substance that provides nourishment.
Arteries	A blood vessel that is part of the system carrying blood under pressure away from the heart to the rest of the body.
Atrium	One of the upper chambers of the heart that takes blood from the veins and pumps it into a ventricle.
Capillaries	An extremely narrow thin-walled blood vessel that connects small arteries arterioles with small veins to form a network throughout the body.
Carbon dioxide	A heavy, colourless, odourless gas.
Red Blood Cells	These transport oxygen and nutrients to the body, they also transport carbon dioxide to the lungs.
White Blood Cells	Also called leukocytes or leucocytes, are the cells of the immune system that are involved in protecting the body against both infectious disease and foreign invaders.
Platelets	A small colourless disc-shaped cell fragment without a nucleus, found in large numbers in blood and involved in clotting the blood.
Pulse	The regular expansion and contraction of an artery, caused by the heart pumping blood through the body.
Organ	A complete and independent part of a plant or animal that has a specific function.
Blood Vessels	Different tubes that blood passes through known as arteries, veins and capillaries

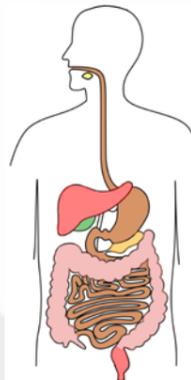
The circulatory system delivers **blood** to the **body's tissues**, carrying **oxygen**, **nutrients** and **water** to all of our cells



The **heart** is a **strong muscle** that **pumps blood** around the **body**. It is made up of **four chambers**

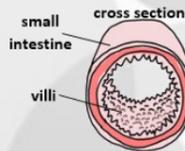
Nutrients and Water

To **function properly**, our bodies need to **absorb** the **nutrients** and **water** we get from **eating** and **drinking** and then **transport** them around the body



Most **absorption** takes place in the **small intestine**

Millions of tiny finger-like structures called **villi** line the **inside** of the **small intestine**.



The **villi** both **absorb nutrients** into the **blood stream** and **increase the surface area** of the **small intestine**, making **absorption** more **efficient**

Exercise

Regular exercise (at least an *hour a day*) will keep your **heart healthy** and your **muscles/bones strong**. The **healthier** your **heart**, the **better** it will be at **transporting oxygen**, and the **nutrients** you need, around **your body**



Drugs

Drugs are **chemicals** that **change** how our **bodies function** in some way

Medicinal

Medicines are **drugs** that, when used **properly** and **carefully**, can make you **feel better** if you are **ill** or **help** your body **heal** itself



Heart Rate

Your **heart rate** *increases* when you **exercise** because your **muscles** are **working harder** and so need more **oxygen** to keep going

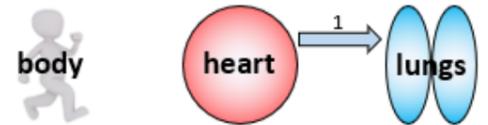


Pulse

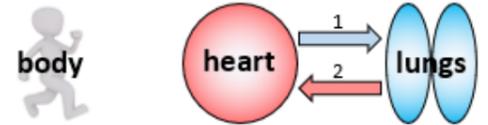
Your **pulse** is how **fast** your **heart** is **beating**. You can feel it where an **artery** passes close to the **skin**. It is measured in **beats per minute (bpm)**



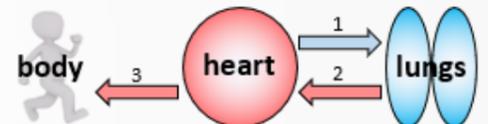
1. **Blood** is pumped **out** of the **right ventricle** to the **lungs** where it picks up *breathed in oxygen*



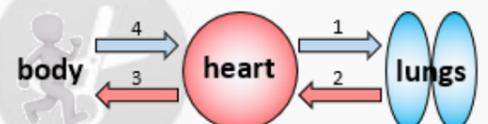
2. The **blood** (now carrying **oxygen**) **travels back** to the **heart** (the **left atrium**)



3. The **oxygenated blood** is pushed into the **left ventricle** and then **pumped** all around the **body**, **delivering oxygen** to all the **organs** and **muscles**



4. The **blood**, *less the oxygen*, **returns** to the **heart** (the **right atrium**) and the process **starts again**



Once the **nutrients** have been **absorbed**, they are **transported** around the **body** in the **circulatory system** (*like oxygen*) to where they are **needed**

Life Choices

The **choices** you make can have a **big impact** on how well your **body functions**

Having a **healthy diet** (*balanced diet*) will help our bodies to **function**, **grow** properly, **repair** itself and **fight off illnesses**

Diet



Proteins
(for growth & repair)



5 a day
Vitamins and Minerals
(for health)



Carbohydrates
(for energy)

Having **some fat** in our **diet** is fine (*energy and insulation*). However, too much can lead to **weight gain**, **high cholesterol** and eventually **heart disease**



Legal

Drugs such as **cigarettes** and **alcohol** are **legal drugs** for **adults**. **Smoking** and **excessive drinking** can **damage** your **heart**, **lungs** and **other organs** and **stop** your body **functioning properly**



Illegal

Drugs such as **marijuana**, **cocaine** and **ecstasy** are **illegal drugs**. They can **damage** the **brain**, **heart** and in some cases **cause**

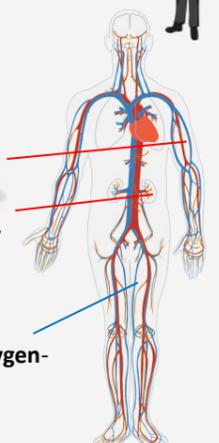


Blood Vessels

Arteries are the **thin tubes** that carry **oxygen-rich blood** **away** from the **heart**

Capillaries are the **tiny tubes** found in **body tissue**. They **transfer oxygen** and **nutrients** *from the blood*

Veins are the **thin tubes** that carry **oxygen-poor blood** **back** to the **heart**



If you *laid out* all an **adult's blood vessels** *end-to-end*, they would measure **100,000 miles**. That's **four times** around the **world!**