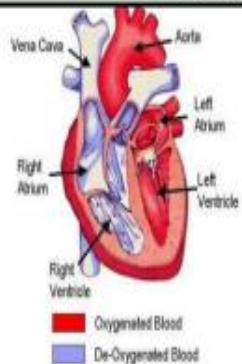




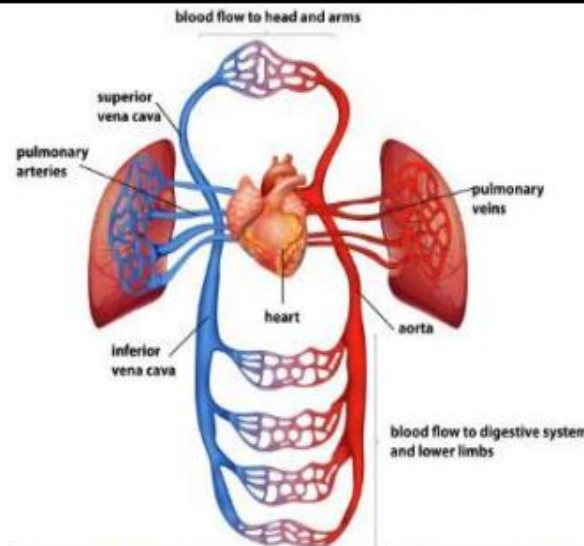
Animals Including Humans

Diagram - The Heart



- The **heart** is composed of four chambers; the right **atrium**, the right **ventricle**, the left **atrium** and the left **ventricle**.
- How often your **heart** pumps is called your **pulse**.

Diagram - The Circulatory System



1. The right **atrium** collects the **deoxygenated** blood from the body, **via** the **vena cava**. It sends the blood to the right **ventricle**.
2. The right **ventricle** **pumps** the **deoxygenated** blood to the **lungs**. Here the blood picks up **oxygen** and disposes of **carbon dioxide**.
3. The **lungs** send **oxygenated** blood back to the left **atrium** which pumps it to the left **ventricle**.
4. The left **ventricle** pumps the blood to the rest of the body, **via** the **aorta**.

Key Scientist



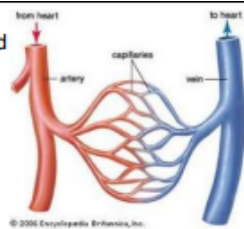
William Harvey (1578-1657) was the first person to correctly describe blood's circulation in the body. He showed that arteries and veins form a complete circuit. The circuit starts at the heart and leads back to the heart. The heart's regular contractions drive the flow of blood around the whole body.

Vocabulary

| | |
|--------------------|--|
| aorta | the main artery through which blood leaves your heart before it flows through the rest of your body |
| arteries | a tube in your body that carries oxygenated blood from your heart to the rest of your body |
| atrium | one of the chambers in the heart |
| blood vessels | the narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels . |
| capillaries | tiny blood vessels in your body |
| carbon dioxide | a gas produced by animals and people breathing out |
| circulatory system | the system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide . |
| deoxygenated | blood that does not contain oxygen |
| heart | the organ in your chest that pumps the blood around your body |
| lungs | two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it. |
| nutrients | substances that help plants and animals to grow |
| organ | a part of your body that has a particular purpose |
| oxygen | a colourless gas that plants and animals need to survive |
| oxygenated | blood that contains oxygen |
| pulse | the regular beating of blood through your body. How fast or slow your pulse is depends on the activity you are doing. |
| respiration | process of respiring; breathing ; inhaling and exhaling air. In KS3 Science, this process is referred to as ventilation . |
| veins | a tube in your body that carries deoxygenated blood to your heart from the rest of your body |
| vena cava | a large vein through which deoxygenated blood reaches your heart from the body |
| ventilation | The exchange of air between the lungs and the atmosphere so that oxygen can be exchanged for carbon dioxide |
| ventricle | one of the chambers in the heart |
| via | through |

What is the circulatory system?

- The **circulatory system** is made of the **heart, lungs** and the **blood vessels**
- **Arteries** carry **oxygenated blood** from the **heart** to the rest of the body
- **Veins** carry **deoxygenated blood** from the body to the **heart**
- **Nutrients, oxygen** and **carbon dioxide** are exchanged **via** the **capillaries**



Choices that can harm the circulatory system

- Some choices, such as smoking and drinking alcohol can be harmful to our health.
- Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death
- Alcohol can cause short-term effects such as addiction and loss of control and long-term effects such as **organ** damage, cancer and death

Why is exercise so important?

- Exercise can:
- tone our muscles and reduce fat
 - increase fitness
 - make you feel physically and mentally healthier
 - strengthens the **heart**
 - improves **lung** function
 - improves skin